JUN 10 1918
UNIV. OF MICH. LIBRARY

Medical Times

A Monthly Journal of Medicine, Surgery and the Collateral Sciences

Published by THE MEDICAL TIMES COMPANY at 81 Fulton Street

Vol. XLVI., No. 6 NEW YORK, JUNE, 1918 Fifteen Cents a Copy One Dollar a Year

CONTENTS

GENERAL SCIENTIFIC.

The United States Hospital Ship Comfort.143
ARTHUR C. JACOBSON, M. D., Brooklyn.

Acute Rheumatism 145
GEORGE F. BUTLER, M. D., Kramer, Ind.

The Medical Expert as Seen by the Trial Judge 148
JUDGE BURT JAY HUMPHREY, New York, with a Discussion by CHARLES A. BOSTON, Esq., New York.

Syphilitic Labyrinthitis 151
MAX LUBMAN, M. D., New York.

The Intravenous Treatment of Syphilis with Salvarsan and Neosalvarsan.....152
H. SHERIDAN BAKETEL, M. D., Brooklyn.

Process of Race Improvement.....154
CASPAR L. REDFIELD, Chicago.

Premedical Training in Chemistry.....155
FREDERICK S. HAMMETT, Ph. D., Boston.

CORRESPONDENCE 156

EDITORIAL.

Brig. Gen. Robert E. Noble, Med. Corps..159

The Achievements of the Army Medical Department 159

The Indispensability of the Independent Worker 160

Intellectual Pathology 160

The Satyrs and Messalinas Give Thanks...161

MISCELLANY.

A Good Word for Tobacco.....161

An Acid Test in the Diagnosis of Genius..161

Hybrids of Homo Sapiens.....162

WAR MEDICINE AND SURGERY 163

GENITO-URINARY SURGERY.165

DIAGNOSIS AND TREATMENT 167

WAR ACTIVITIES 169

THE PHYSICIAN'S LIBRARY.170

Established 1872 *Entered at the New York Post Office as Second class matter.*

Two Things to be Done

1 Make the mixture of **Peptogenic Powder,** water, milk, cream (or top milk.)
2 Apply heat as directed.

RESULT: A close approximation to normal mother's milk in chemical, physical and physiological properties. Simple in formula; close to Nature in design and in effect; successful in practice (used since 1882)—upon these grounds the Peptogenic Powder and process appeal to the physician for service in the artificial feeding of infants.

FAIRCHILD BROS. & FOSTER, New York

℞ **Syrupus Hypophosphitum Comp.**
FELLOWS

It is not unusual to meet the claim that other preparations are "just as good" as FELLOWS, but no one has met the preparation which rightly claimed to be better than FELLOWS. For over fifty years FELLOWS' SYRUP has maintained its supremacy as the standard preparation of the *Compound Hypophosphites.*

Reject Cheap and Inefficient Substitutes / Preparations "Just as Good"

VENEREAL PROPHYLAXIS

is not a moral but a vital medical issue, that concerns not only the health of present generations, but the existance of generations yet unborn.

Until human nature changes and reason reigns supreme over the demands of the appetite, prevention will prove more potent than persuasion or punishment.

SANITUBES were designed to prevent disease, not to cure it.

SANITUBES do not encourage indulgence but guard against its consequences.

SANITUBES assist the doctor in defending his patients until such times as they can be educated to avoid the possibility of venereal infection.

Scientific literature and information sent on physicians' request.

The Sanitube Company, **NEWPORT, R. I.**

The Facts About the Origin of Malted Milk

In 1883, Horlick of Racine, Wis., discovered the process for reducing whole milk to a powder form, combined with the soluble extract of malted grain, and devised the name Malted Milk.

This discovery was American from inception to finish, and not of foreign origin. It was of great importance to humanity, since for the first time milk was reduced to a dry powder form, digestible, soluble in water, and would keep in any climate.

There was no Malted Milk in the world, other than Horlick's for nearly twenty years—and during this time, Horlick's shipped to Europe large quantities of their product.

When Horlick's had made Malted Milk a success, various imitations then appeared upon the market. Thousands of physicians know the above facts, and will not endorse imitations of the "Original."

Horlick's Malted Milk Co., **Racine, Wis.**

Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

Vol. XLVI., No. 6 NEW YORK, JUNE, 1918 Fifteen Cents a Copy One Dollar a Year

Board of Contributing Editors.

WM. G. ANDERSON, M. Sc., M. D., DR. P. H..New Haven, Conn.
SETH SCOTT BISHOP, M. D., LL. D.....Chicago, Ill.
JOHN W. BOWLER, A. M., M. D.....Hanover, N. H.
GEORGE F. BUTLER, A. M., M. D.....Kramer, Ind.
EDWARD E. CORNWALL, M. D.....Brooklyn, N. Y.
KENNON DUNHAM, M. D.....Cincinnati, O.
W. L. ESTES, M. D.....South Bethlehem, Pa.
HAROLD HAYS, A. M., M. D., F. A. C. S.....New York
ALFRED K. HILLS, M. D.....New York
JOHN J. KYLE, A. M., M. D.....Los Angeles, Cal.
HOWARD LILIENTHAL, M. D., F. A. C. S.....New York
EDWARD H. MARSH, M. D.....Brooklyn, N. Y.
ROBERT T. MORRIS, A. M., M. D., F. A. C. S.....New York
HENRY H. MORTON, M. D., F. A. C. S.....Brooklyn, N. Y.
GEORGE THOMAS PALMER, M. D.....Springfield, Ill.
JOHN O. POLAK, M. Sc., M. D., F. A. C. S...Brooklyn, N. Y.
JOHN PUNTON, A. M., M. D.....Kansas City, Mo.
COL. IRVING W. RAND, M. D., U. S. A.....Tientsin, China.
CHARLES S. ROCKHILL, M. D.....Cincinnati, O.
DUNBAR ROY, M. D.....Atlanta, Ga.
DUDLEY A. SARGENT, M. D.....Cambridge, Mass.
ALBERT H. SHARPE, M. D.....Ithaca, N. Y.
JOHN P. SPRAGUE, M. D.....Grinnell, Ia.
ALMUTH C. VANDIVER, B. S., LL. B.....New York
REYNOLD WEBB WILCOX, M. D., LL. D., D. C. L..New York

General Scientific

THE UNITED STATES HOSPITAL SHIP COMFORT.

A Report of an Inspection by the Associate Editor of the MEDICAL TIMES.

"I march across great waters like a queen,
I whom so many wisdoms helped to make."

"Somewhere upon the Atlantic" at this writing is the great hospital ship *Comfort*, the last word in this type of vessel afloat. From stem to stern, and from keel to crow's nest, preparedness for her task fairly bristles. The equipment is comparable to that of a modern hospital doing the most advanced kind of work.

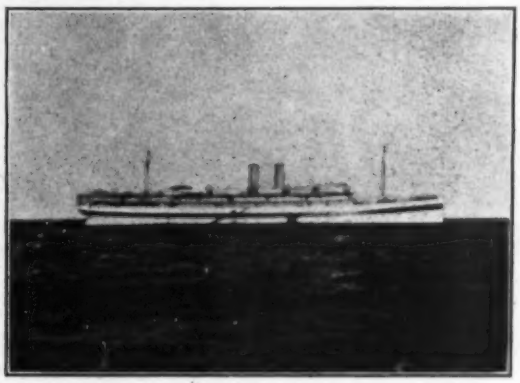
The *Comfort* is a sister ship of the *Mercy*. These modern hospital ships, together with the *Solace* of Spanish War fame, which is still in service, and the *Relief*, will soon be supplemented by others.

Before being refitted and commissioned as a hospital ship the *Comfort* belonged to the Ward Line and was known as the *Havana*. She is a 10,000-ton vessel of 10,000 horse power. The cost of her purchase, refitting and equipment has approximated two and a quarter millions of dollars.

The surgical equipment on this ship and the *Mercy* was considerably augmented by a donation of $50,000 from the National Society of Colonial Dames of America.

The scientific personnel of the *Comfort* has been organized around a nucleus consisting of Naval Hospital Unit No. 4, which comprised surgeons, physicians and nurses of St. Mary's Hospital, in Brooklyn, under the Directorship of Lieutenant Commander John A. Lee. St. Mary's Hospital not only organized this unit but also offered the use of its entire institution to the Government, which promptly took over the hospital's excellent facilities for the care of about three hundred soldiers and sailors.

Dr. Lee's associates in the unit were Surgeon and Lieutenant Commander John J. Collins, chief of the medical section; Assistant Surgeon and Lieutenant Edward J. Morris, specialist in *x*-ray work; Assistant Surgeon and Lieutenant (junior grade) William Moitrier, specialist in laboratory work, and Assistant Surgeon and Lieutenant (junior grade) Jay G. Wood, specialist in eye, ear, nose and throat. Twenty-two nurses were attached to the unit.



United States Hospital Ship Comfort.

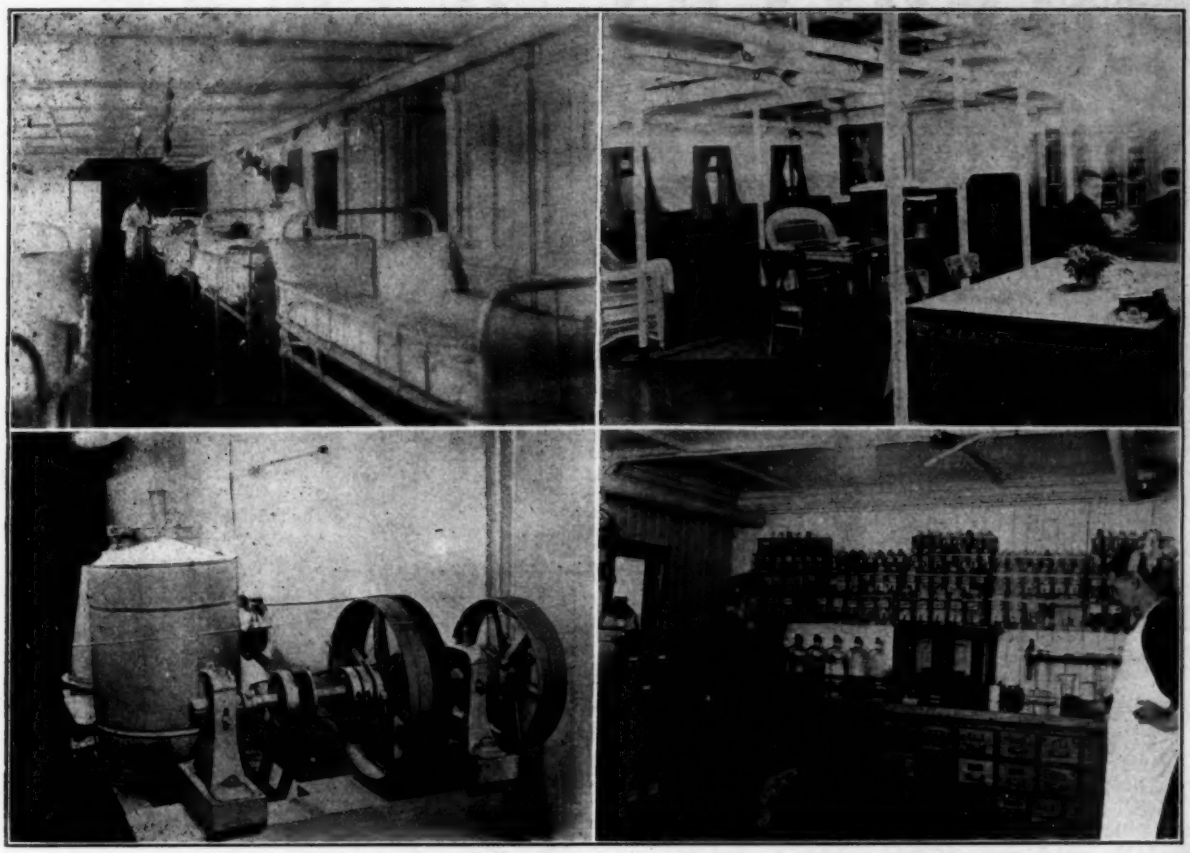
The commanding officer of the *Comfort* is Medical Inspector Charles M. Oman, U. S. N., formerly Executive Surgeon of the United States Naval Hospital at New York.

The Executive Surgeon of the ship is Surgeon Richand A. Warner, U. S. N. He is in immediate charge of the hospital administration, which is organized as follows: Surgical Department—Chief Operating Surgeon (Dr. Lee), Assistant to the Chief Operating Surgeon, Eye, Ear, Nose and Throat Specialist, Genito-Urinary Specialist, and Radiologist. Medical Department—Senior Medical Officer (Dr. Collins), Laboratory Pathologist and Bacteriologist, Contagious Disease Specialist, and one Medical Assistant.

This organization comprises the five members of the original St. Mary's Unit, a Medical Inspector of the Navy, a Surgeon of the Navy, and four Assistant Surgeons of the Navy: Asst. Surg. C. L. McCarthy, Asst. Surg. C. A. Norburn, Asst. Surg. W. B. Giles and Asst. Surg. J. H. Robbins.

The Commissary Supply Department is in charge of Assistant Paymaster W. L. Burrell, U. S. N. R. The Executive Surgeon's Aide is Lieutenant P. J. Waldner.

The Sailing Force and its Master (and five officers) and the Engineering Force (Chief Engineer and five Engineers) are drawn from the Naval Auxiliary. They are not members of the regular Navy or Naval Reserve, but are drawn from the merchant marine. Hospital



Sick Officers' Ward.
Mechanical Cow (Apparatus for Making Artificial Milk).

Ward Room.
Dispensary.

ships are not part of the fighting forces, are not armed, and carry no ammunition or soldiers. The Master ranks as a Lieutenant Commander in the Naval Auxiliary.

The crew is drawn from the regular Navy and Naval Reserve and totals about three hundred.

The total complement of the ship is about three hundred and twenty-five.

Inspection of the vessel reveals the following arrangements:

Boat Deck: Stored provisions; animal houses (all laboratory animals, with the exception of the horse, are available, the animal quarters being steam-heated); quarters for Master and mates; mess room for line and engineer officers.

Promenade Deck: Commanding Officer's quarters; anesthetizing room; operating rooms; sick officers' ward and staterooms; convalescent officers' mess room; four isolation wards; pantry; medical library; small receiving ward; disinfecting plant; solarium (which can be used as a general ward if necessary). The main operating room is forward, the solarium aft.

Hurricane Deck: Surgical ward (forward); dressing room; general lobby with office of the Officer of the Day; offices of Executive Surgeon and Commanding Officer; *x*-ray room; laboratory; special diet kitchen; pharmacy; quarters for medical officers; medical ward; autopsy room.

Main Deck: Laundry; G.-U. treatment room; general ward for G.-U., Eye, Ear, Nose and Throat cases and convalescent medical and surgical patients; general library of 2,000 books for patients and crew; galley; refrigerators; cold storage rooms; quarters for hospital corps and quarters for crew; two additional convalescent wards.

Below Decks: Medical supplies; storerooms; general supplies and dry groceries; milk-making machine (in charge of an agricultural chemist—makes a pasteurized milk out of milk powder and butter which in cold storage keeps well for three months).

There are beds for 312 patients, which can be amplified by 350 cots. Two ambulance motor boats of generous capacity accompany the ship. The ship can be quickly abandoned and bedridden patients taken care of by means of the Stokes stretcher, a sufficient number of which are nested in the wards for the purpose. There are also a number of modified Blake-Lyle fracture devices, specially adapted for hospital ships. A portable bedside coil makes radiography in the wards practicable when required. An elevator runs between the surgical ward and the operating room. There are two electric baking outfits for the wards. A large number of the beds are constructed so as to make the Fowler position feasible.

The equipment includes electric sterilizers and apparatus for endoscopy, proctoscopy and cauterization. There is a double system of lights in the operating room, one operated by the regular ship current and one by a storage battery. A chute system delivers soiled linen to the laundry. The linen and clothes lockers and blanket warmers are ample and conveniently placed.

The fire prevention system of the ship is admirable. The dental department, in charge of Dental Surgeon Dr. H. E. Harvey, U. S. N., is completely equipped.

Surgical Ward.

The laboratory supplies include $800 worth of sera, donated by the Department of Health of the City of New York.

There is an operating and treatment room for pus cases and a fracture room equipped with a Hawley fracture table, as well as instrument and scrubbing-up rooms.

The ship can be completely screened against insects. Special ceilings and enameling contribute to asepsis in the operating rooms and wards.

This vessel cannot be thought of as a mere transport for the sick. It is in reality a complete hospital, in just as true a sense as any institution on dry land. The *Comfort* will call at the naval bases and her wireless will make her available for aid in marine catastrophes or sea fights.

Wardroom accessories include a grand piano, phonograph outfits, cards and other games.

A chaplain of the Navy is detailed to the ship.

The voyage of this ship, and the record that the carefully selected medical staff will surely make, will add another glorious page to the annals of the Navy and our own beloved guild. For, beginning with Saint Luke, himself a ship surgeon who sailed the Mediterranean, doctors have always been good sailors. The exactions of the present colossal struggle will be met by our American colleagues in the spirit of the "beloved physician" and with all the skill and resources of modern art and science.

There shall be a new Saga of the Sea, another Song of the Ship:

"Of the maimed, of the halt and the blind in the rain and the cold—
Of these shall my songs be fashioned, my tales be told."

ARTHUR C. JACOBSON, M. D.

Cause of "Milky" Serous Effusion of Very Low Specific Gravity.

Weber and Schmidt have previously reported on the occurrences of a milky effusion in a case of syphilitic nephritis. In the present article in the *International Clinics* they present several additional instances of this unusual condition occurring in nonsyphilitic subjects. In addition to the milky appearance of the fluid it has a very low specific gravity, being very little above that of water.

ACUTE RHEUMATISM.

(Rheumatic Fever)

GEORGE F. BUTLER, A.M., M.D.,
MEDICAL DIRECTOR OF MUDLAVIA,
Kramer, Indiana.

Prophylaxis. Rheumatic fever like many other infectious diseases has a tendency to recur. Predisposing causes should be sought for in each individual and removed if possible. Exposure to cold, excessive feeding, excessive fatigue, bodily or mental, unhygienic surroundings, improper diet and overeating and certain occupations are the chief predisposing causes.

In order to prevent these attacks proper underwear should be worn next to the skin, summer and winter, and the patient should exercise great care in avoiding exposure to cold and wet, and should be careful to guard against getting chilled especially in the summer or autumn months. In the majority of cases woolen or flannel clothing should be worn next to the skin summer and winter, light weights in summer and heavier in winter, the texture and weight of the clothing, however, being adapted to the individual and the character of his occupation. One whose business keeps him in well-heated rooms the entire day during the winter and who is in no danger of exposing himself to extreme cold or sudden changes in going to and from his work does not require as heavy flannels as the laboring man who is more exposed to the inclement weather.

Those who have suffered from rheumatic fever are not fitted to perform heavy manual labor. Day laborers, farmers and servants are more susceptible to rheumatism than those engaged in less fatiguing occupations. For young women factory work is less conducive to rheumatic attacks than domestic service. In my experience I have found domestic servants to be particularly prone to rheumatism.

Rheumatic patients who have had recurring attacks of rheumatic fever should live, if possible, in a dry, warm equable climate. The personal hygiene should be looked after, the body kept clean and toughened by a cold sponge or tub bath every morning. The patient should have plenty of daily exercise, good nourishing food, but not too much of it, intestinal toxaemia and auto-intoxication being a potent predisposing cause of rheumatism. Rheumatics should partake of less meat than healthy persons may safely indulge in, and cured and salted meats should be avoided altogether, sugar, sweets and pastry should be taken in small quantities only. The diet should consist principally of vegetables and fruit, fresh and cooked, although strawberries and tomatoes should be taken sparingly, if at all. Milk, cream and fat substances generally may be used freely. My experience justifies me in recommending rheumatic patients to abstain from the use of both alcohol and tobacco.

The hygienic and sanitary surroundings of rheumatic subjects should be as perfect as possible and the home located preferably, in the country, or at the outskirts of the town. The house should be sunny and well ventilated, and have a concrete basement to prevent the entry of ground air.

The local point of infection in many cases of rheumatism is in the throat, more often in the tonsils. It is well known that rheumatic fever is frequently preceded and accompanied by tonsillitis. It is advisable, therefore, that diseased tonsils be removed in all patients with a rheumatic tendency. All carious teeth should be attended to, the teeth kept clean, and the mouth and nose in proper condition. All digestive dis-

order should be remedied, and constipation guarded against.

The heart of a patient subject to rheumatism should be carefully examined every six months whether there have been previous endocarditis or not.

Treatment. The principal indications in the treatment of rheumatic fever are, as Symes points out: (1) To place the body at rest so that the minimum amount of strain is likely to be thrown upon the tissues most likely to be affected; viz., the heart, joints and muscles. (2) To neutralize the rheumatic toxin or to kill the specific coccus circulating in the body. (3) To reduce pyrexia and relieve the painful arthritis by means of general and local remedies. (4) To guard against cardiac inflammation. (5) To sustain the strength of the patient by suitable food. (6) To control the pyrexia. (7) To guard against relapses. (8) To restore the general bodily vigor and prevent further attacks.

At the first warning of the advent of rheumatism the patient should be put to bed and kept there until he is well on the road to recovery. The bedroom should be well ventilated and in the warmest and most sheltered part of the house. The temperature of the room should be kept between 60 and 65 degrees, care being taken that no drafts, especially of moist air be allowed to strike the patient.

Arrangements should be made so that after the patient is first put to bed he need not be moved until convalescence is well established, save to arrange or change the bed clothing; this should consist of light material, preferably woolen blankets. A wire spring mattress and hair mattress are preferable to any other kind. A good comfortable bed is very essential in all cases of illness. Ordinarily the patient should lie between blankets but in some cases the weight of the blanket even is distressing to the invalid, when a sheet may be substituted for the outer covering, or, better yet, the upper blanket kept off the body by means of improvised supports made of barrel hoops or wires placed over the body and upon which the bedclothing rests. The sleeping suit or nightgown should be of flannel, and on account of the profuse perspiration will require to be frequently changed; it should therefore be slit in front and behind, the sleeves slit along their outer margins, and kept in place by being laced with tape. A garment so arranged can be removed easily with a minimum of disturbance and discomfort.

The affected joints should be protected and supported by pillows, air pillows and blankets. Pressure should be minimized by the use of water or air pillows and every precaution taken to prevent bedsores. The body and limbs should be sponged daily with hot water, to which a little vinegar has been added, followed by warm alcohol, care being taken to disturb the painful joints as little as possible. To minimize the amount of movement the patient should use the bedpan and urine bottle.

Attendants and friends should exercise great care while in the sick room to disturb the invalid as little as possible by walking across the floor, closing doors or doing anything which by jarring the bed would give him pain. Ordinarily the temperature need be taken but three times a day, and then in the locality which would occasion the least disturbance to the patient.

Diet. The diet from the onset and until a few days after the subsidence of the fever should consist principally of milk, although other fluids such as buttermilk, koumis, broths, soups, fruit juices, lemon, lime and orange ades, water ices, cold carbonated waters, rice, barley or natural water, as well as ice cream may be given if desired. After the febrile stage has passed and with the return of the appetite a more liberal diet may be given, the quantity and kind of food depending largely upon the patient's desire and taste, although it is well, perhaps, to limit or exclude from the bill of fare food rich in nucleins and purin bases. If there is much anaemia and emaciation a generous diet, including meats are advisable, being careful not to give too much at any one meal.

Serum Treatment. In my opinion the serum treatment of rheumatic fevers is yet in the experimental stage. After having used the widely advertised phylaccogen in this disease quite extensively both in private and hospital practice I have discarded it; the intense reaction so often following its administration, seeming to make the "cure worse than the disease." A better reason, however, for my discontinuing the remedy, was the unusually large number of stiff joints following its use. I have been more impressed by this fact since I have been medical director of Mudlavia, where thousands of rheumatic patients are treated every year. Here I constantly find patients with ankylosed joints showing many signs of beginning arthritis deformans, giving a history of recent acute articular rheumatism, and who were treated with phylaccogen, discharged as "cured" and later developed stiffness in their joints and were advised, or personally decided to try the Mudlavia treatment. We have so many of these cases that I am forced to believe that the phylaccogen has been a potent causative factor in their production.

If a remedy of this character is to be used at all I believe it should be an autogenous vaccine or the bacteriolytic serum obtained from cultures made from the throats of persons suffering from rheumatic angina. The administration of this serum seems not to be contraindicated by the existence of endocarditis, although it is advisable to exercise caution in using it in cases of high fever, pericarditis and pleurisy. While I am not ready to recommend the use of this serum to the exclusion of the salicylate and alkaline treatment, I would advise its trial in obstinate cases and in cases of malignant endocarditis of rheumatic origin.

Specific Treatment. The nearest approach to a specific in the way of a drug in the treatment of rheumatic fever is salicylic acid or its derivatives. In the salicylates we have apparently a remedy which destroys or neutralizes the toxin or toxins formed by the diplococcus. Luff says: "It is quite possible that the salicyl compounds may destroy or neutralize an infective toxin or toxins. In connection with this view it is interesting to bear in mind that salicylates are powerful hepatic stimulants, and that they also possess the power of combining with fatty acids, the seat of whose manufacture is certainly to a great extent in the liver. For instance, the fatty acid glycocine (amido-acetic acid), which is manufactured in the liver, combines with sodium salicylurate, which is eliminated in the urine; it may be that one of the toxins of rheumatic fever is a fatty matter which is in like manner seized upon and removed by the salicylate."

I agree with Symes that this explanation of the action of salicylates in acute rheumatism is more acceptable than that which attributes to the drug a direct antiseptic action, for there are many facts which go to show that salicylates, whilst they relieve or mask the sypmtoms of rheumatic fever, have no direct and lasting curative action.

Salicylic acid has a distinct anodyne influence of the

pain of rheumatic fever. There is usually marked relief by the time the patient has taken 4 grams (60 grains) of the drug in divided doses. If 15.5 grams (4 drams) of sodium salicylate is taken in twenty-four hours, pain is reduced to the minimum. In subacute cases the relief is not so marked.

On Pyrexia. Coincident with the relief of pain there is a marked decline in the temperature, often before the subsidence of the pain. High fever is more quickly influenced than slight fever. The rapidity of the reduction of temperature depends upon the dose and the frequency of administration; 16 grams (4 drams) in twenty-four hours acts better as an antipyretic than if spread over thirty-six hours.

Influence on Preventing Cardiac Manifestations. Other than to shorten the duration of the disease thus exposing the heart less time to the action of the poison the salicylates exert no special influence on that organ.

On Hyperpyrexia. This condition is much less common as a complication when the case is treated with the salicylates, but they are useless when hyperpyrexia is once established.

The Duration of the disease is lessened under the use of salicylic acid or the salicylates, and if no cardiac complications occur usually terminates within two weeks, but, on the other hand, if cardiac complications are present the patient will be compelled to remain in bed as long as if under the alkaline treatment alone.

Relapses are probably uninfluenced by the use of salicylates.

Contraindications to the Use of Salicylates. Acute disease of the kidneys, gastritis, marked idiosyncrasy to the drug such as vertigo, delirium, severe tinnitus, and by some clinicians cardiac disease is looked upon as a distinct contraindication. Personally I give the salicylates in moderate doses along with alkalies without the heart is badly damaged and as far as I have been able to judge I have never had any bad results from their administration.

Choice of Preparation. While salicylic acid is probably more rapid in its action than the salicylates, it is also more irritating to the stomach, so much so that it is rarely used, the sodium salicylate or allied products being used instead. If salicylic acid is given at all it should be administered in capsules followed by a copious drink of water.

Sodium Salicylate, on the contrary, is preferably administered in an aqueous solution—spearmint, anise or peppermint water with a little simple syrup. Sodium salicylate is better borne, producing fewer untoward symptoms, and greater immunity from heart complications when combined with an alkaline. The salicylate-alkaline treatment will be discussed later.

Aspirin (aceto-salicylic acid), is valuable in acute cases with pyrexia. When given in moderate doses it rarely causes any gastro-intestinal disturbance, kidney symptoms or any tendency to collapse. The drug is not unpleasant to the taste and may be administered in powders, capsules, cachets, or in tablet form, or it may be suspended in lemon-juice and water. It is incompatible with alkalies. The drug may be given in 1 to 3 gm. (15 to 45 grs.) three or four times in the twenty-four hours. As the symptoms subside the doses are gradually reduced.

Salicin has not so powerful an effect upon the pyrexia and arthritis as has sodium salicylate, but while the results are less satisfactory it is less likely to give rise to symptoms of salicylism. It is more pleasant to the taste than sodium salicylate and may be given in doses of 0.6 to 0.3 gm. (10 to 20 grs.) suspended in milk or any aqueous solution.

Salophen (acetyl-para-amido-phenyl-salicylic-ester) 1 gm. (15 grs.) in cachets, or suspended in milk, or mucilaginous solution with 2 gm. (30 grs.) of sodium bicarbonate, may be administered every two or three hours.

Oil of Wintergreen, while not so efficacious as salicylic acid, is very popular with some clinicians. 0.6 to 1.2 c.c. (10 to 20 minims) may be given in milk or in capsules every two hours.

Other drugs which have been used with more or less benefit, as substitutes for sodium salicylates are saliprine, salol, saligenin, malakin, antipyrine and atophan.

General Treatment. At the very commencement of an attack of rheumatic fever a free action of the bowels should be secured by the administration of a full dose of calomel with some of the vegetable cholagogues such as a podophyllin or euonymin, this to be followed in a few hours with a saline laxative. The bowels should be kept open throughout the course of the disease by some mild laxative having an action upon the liver, free functional activity of this organ being necessary in cases of rheumatism.

My plan is to begin at once with energetic alkaline therapy in connection with the free administration of salicylates. 0.6 to 1 gm. (10 to 15 grs.) of sodium bicarbonate or potassium citrate, preferably the latter, and the same of sodium salicylate or aspirin given either together in solution (save in the case of aspirin being used) or separately every hour during the day but not so often during the night for twenty-four hours or less time if there is relief of pain and reduction of temperature. After this the interval between the doses may be lengthened to two to four hours, and the drugs continued in doses named for from one to two weeks If possible the saliva, urine and sweat should be kept neutral or alkaline to litmus paper. Children should of course receive smaller doses of the salicylates. The dose for children of one year of age should not exceed 1 gm. (15 grs.) in twenty-four hours; from two to six years not over 3 to 4 gm. (45 to 60 grs.) in twenty-four hours. Children are more susceptible to the untoward effects of the salicylates than are adults.

Should the pains in the joints not be controlled by the administration of the drugs above mentioned opium may be given either in the form of Dover's powder or as morphine hypodermically. Opium not only relieves the pain, but by securing rest and sleep and quieting the nervous system it lessens the amount of work thrown on the heart, thus tending to prevent cardiac complications.

Local Treatment. Absolute rest of the inflamed joints is essential to prompt recovery. The joints should be moved as little as possible, if necessary immobilized by means of a starch bandage, or the joint placed in as comfortable position as possible and wrapped in cotton. The extreme sensitiveness of the joint may preclude the application of a starch bandage, but wrapping the joint with cotton will prove grateful to nearly every patient.

Local applications are often grateful; hot or cold compresses, whichever is the more soothing to the patient may be applied; alcohol compresses, anodyne liniments, alkaline washes, salicylic or oil of wintergreen ointment or other applications as the ingenuity of the physician may suggest, may be tried.

The Sweats may be controlled by the internal ad-

ministration of atropine, although it is first well to try bathing the skin with water and aromatic vinegar, or even with alkaline washes (one per cent solution of sodium bicarbonate) and then dusting with talcum powder. The folds of the skin, especially in fleshy individuals should be examined frequently, bathed with water and aromatic vinegar to which a little spirit of camphor is added, or if there is any tendency to rawness bathed in a five to fiteen per cent aqueous solution of ichthyol, dried carefully and the parts dusted with stearate of zinc, or lycopodium.

Insomnia usually can be controlled by aspirin and codein, Dover's powder or chloralimid, sulphonal or trional. If there is no heart complication chloral and potassium bromide with hyoscyamus may be used.

Hyperpyrexia. When cerebral symptoms occur with cessation of arthritic pains and a rapidly rising temperature the physician is warned on the onset of the most dangerous complication of rheumatic fever and should at once commence an energetic treatment to combat the syptoms and prevent, if possible, a fatal termination. 1 gm. (15 grs.) of quinine sulphate are to be given at once, and the patient immersed in a cold bath (70 deg. F.) and the bath kept at this temperature by means of ice added from time to time. The nightgown should be removed and the patient let down into the bath in a sheet, the shoulders being supported and the head bathed continuously with iced water. Stimulants—strychnine, brandy or aromatic spirits of ammonia—given hypodermically or by the mouth if there are indications of collapse. The patient should be kept in the bath until the temperature has fallen five or six degrees. The thermometer should be used incessantly both to determine the temperature of the patient and of the water.

When the body temperature has been reduced sufficiently the patient is lifted from the bath, placed in bed, wrapped in a blanket, and stimulants given and hot water bottles applied to the feet if there be signs of collapse.

When, for any reason, it is impossible to give the full cold bath treatment, an iced water pack repeated six or eight times, frequent sponging with iced water or rubbing the body with ice serve as fairly good substitutes.

For other complications such as endo-, pero- and myocarditis; pneumonia, pleurisy and complications of the nevrous system, such as coma, delirium, etc., the reader is referred to the appropriate treatment of these conditions.

Sequelae and Convalescense. Relapses are common and at the first warning of a return of rheumatic pains the patient should rest in bed and begin the same treatment given in the first attack.

The most common sequelae are exudation about the joints, articular or periarticular thickening ankylosis and atrophy of muscles. Potassium iodide alone or with colchicum internally, and if a high degree of urinary acidity alkalies, with the external application of iodovasogen or mercurial ointment rubbed in well and followed by a therapeutic light treatment. Massage, electrotherapy and the Bier hyperaemic treatment are useful also. Various hydrotherapeutic measures are of unquestioned value in the treatment of these sequelae. Markedly beneficial results are obtained at various spas. I have never seen any treatment compare in efficiency with the mud baths given at Mudlavia. I have been astonished at the rapid and good results obtained by the Mudlavia treatment in the sequelae of rheumatic fever, as well as in chronic rheumatism, gout and neuritis. I am sure that I get results here much sooner than I could possibly do, in private practice. During convalescence from rheumatic fever the patient should remain in bed for at least two weeks after the attack and in the house for a week or two longer. He should be fed liberally, have plenty of fresh air and sunlight, and if possible for some weeks after the attack visit some health resort where he could have pleasant surroundings, good food, good water, baths, rest and recreation. Appropriate treatment should be instituted if there is marked anaemia, while moderate doses of alkalies and salicylates should be taken for several weeks after all symptoms of rheumatism have disappeared.

THE MEDICAL EXPERT AS SEEN BY THE TRIAL JUDGE.*

BURT JAY HUMPHREY.
JUDGE OF THE COURT OF THE COUNTY OF QUEENS,
New York.

There is no doubt that in the minds of a great many people the testimony of medical experts is looked upon with considerable disfavor. It has been asserted, and reiterated, that murderers have been cheated of the just punishment for their crimes because alienists have discovered that, at the moment of the commission of the crime, there was a period during which the murderer was incapable of comprehending the nature of his act.

Concerning alienists, it has been frequently asserted that if a murderer has sufficient financial responsibility he can commit almost any crime and later establish mental irresponsibility at the time it was committed. It is because of the repeated defenses of this character on the part of those who occupy high social positions that the average lay mind seems to be imbued with the idea that a long purse helps to discover a temporary mental aberration at a time when it will be most useful to one who has committed a serious crime.

It often happens that the sympathy of the reading public is entirely with the murderer, and a feeling of hostility created against the murdered. In other words, the murderer becomes a popular hero for having taken upon himself the responsibility of inflicting the death penalty, if, perchance, a series of degrading indignities have been heaped upon the murderer.

Probably the most pronounced case of recent years which expressed this idea is that of Harry Thaw. The concensus of opinion seems to be that that body of alienists who, at the time of his trial, pronounced him mentally irresponsible were right and that therefore his acquittal of the crime of murder for that reason was justified. The critical comment seems to justify and uphold those brave alienists who adhered to that determination.

On the other hand, the thoughtful public views with disfavor the effort that was made after his confinement in the hospital for the criminal insane to help secure his release, and turning him loose give him an opportunity to gather to himself new victims of his perverted instincts. His isolation for the balance of his period of irresponsibility is now probably assured, and unless a cure can be effected, which is very improbable, doubtless no further harm will come to innocent people because of his peculiar mental derangement.

Under the laws of our State it is not a defense to a charge of murder that the one who was murdered was a person of bad character or was one who had committed an unpardonable sin; and so resort is frequently

* Read April 8th, 1918, at the Society of Medical Jurisprudence of New York.

had to the claim that during a certain limited period the murderer was beside himself and not accountable for his acts.

The most recent and widely heralded example is the case of Mrs. De Saulles, whose trial took place in Nassau County a few months ago. The proof of homicide was admitted and there were many circumstances to indicate that it had been carefully and deliberately planned. The trial disclosed a series of indignities and want of faithfulness on the part of the former husband of the accused which, to the minds of the alienists, culminated in an utter lack of consciousness upon her part of the nature of the act which she committed.

And then, too, it occasionally happens that a clever criminal feigns insanity, simulates the conduct and behaviour of a jibbering idiot or maniac and thereby deludes celebrated alienists into the belief that their client is irresponsible for his acts. It is a matter of record that, after alienists have been convinced and have testified as to the lack of mental responsibility, the patient has resumed his normal status and has himself made sport of the alienists whom he had called upon to assist him in escaping the responsibility of his acts.

The most pronounced case within my memory of this feature of the work of alienists was the case of the bank wrecker Robin, formerly Robinovitch, who brazenly boasted of having deceived the most celebrated alienists in the State of New York.

These, however, are the spectacular cases and because of their great prominence and the publicity that is given to them, the thoughtless public gets the idea that all expert alienist testimony is biased and unreliable, and it is not at all unusual for a trial judge to hear talesmen who are being examined as to their qualifications to act as jurors in a particular case assert that they place no reliance whatever upon the testimony of alienist experts.

Those of us who are sitting in the trial of cases and the hearing of proceedings from day to day however know that the opinions and conclusions of medical experts are worthy of receiving, and do deceive, credence and consideration at the hands of trial judges, and that in the general run of cases in which medical testimony is offered the opinions of experts called by litigants on both sides are not greatly at variance with each other.

My chief experience in the hearing of medical testimony does not relate to the opinions of alienists, but is brought forth in the trial of civil actions to recover damages for personal injuries. In the trial of such an action the first question that is submitted to the jury is, whether the defendant is responsible, through his negligence, for the injuries which have been occasioned to the suing plaintiff. There is always an issue of fact involved as to the question of liability. Our system of trial requires not only this question of liability to be submitted, but the extent of the liability as well. It is upon the question of seriousness or the lack of seriousness of the injuries sustained that the medical expert is called in to give his opinion either upon a hypothetical statement of fact or upon a statement of fact based upon the evidence.

It sometimes occurs that clever examining counsel are able to place the medical expert in a rather ridiculous position. To a large extent this is not attributable to a wilful desire upon the part of the one who is giving expert testimony to misrepresent the condition of the patient and thereby mislead the jury, but it is rather due to the expert being thoughtlessly led into a trap by a clever and adroit cross examiner.

Medical men are very busy and they are frequently called to the witness stand and asked to testify, after being hastily summoned to court by telephone and without any opportunity to have the subject matter freshly brought to their minds by the counsel for the litigant in whose interest they are called.

There is no denying the fact that cases are not as well prepared for trial as they might be, and in my judgment a lawyer never should call an expert to testify in an accident case until the expert and the lawyer both thoroughly understand the symptoms and the ailments of the person injured and the direction which the examination is going to take. The embarrassment which a medical man finds himself in is usually due to this misunderstanding between him and the litigant in whose interest he is called.

The expert who becomes a partisan in behalf of his client or patient whom he has examined finds himself in deep water when being questioned by opposing counsel who understands causes which produce symptoms as well as, if not better than, the expert.

One of the most difficult questions presented in this class of cases is the effect upon the nervous system of the person who has received the physical injury and its duration. This varies so broadly with persons of different temperaments that a wide range is offered for the expression of opinion. But with all the dispute and contention which grows out of a hotly contested trial the opinions of the experts are not as far apart when critically examined as would at first appear. Many times the defendant's counsel is so well satisfied with the testimony of a medical expert who has given testimony for his adversary that no one is called to contradict any statement which the expert has made.

General rules, which every one recognizes, are controlling in a large majority of cases and where new or unusual results from an injury are sought to be established, the attorney and the physician should, for the purpose of aiding the court and jury in reaching a just determination, have their theory so well developed before the trial is undertaken that there is no chance of the lawyer proceeding upon one theory and the medical expert upon another.

The family physician usually sees the patient before the medical expert is called in. At the time the former is called upon the physical evidences of the injury are palpably apparent; when the expert is consulted it is not infrequent that subjective symptoms only are apparent.

There is no doubt that the shock accompanying an accident, even where the outward and visible signs of injury are not pronounced, produce an effect upon the nervous system of the person injured which lasts for a considerable period of time, and in some instances results in a permanent disorder.

The excitement and strangeness of the surroundings at a trial, and the rehearsal of the incidents connected with the accident have a tendency to aggravate the condition of a patient who has been injured. Indeed I have witnessed several cases where the strain has been so great that a litigant has collapsed upon the witness stand and been carried unconscious from the courtroom. A defending lawyer should seek to avoid such an interruption in the progress of a trial, because, after liability is shown on the part of the defendant such an incident is likely to aggravate the amount of damages which a jury would give to a plaintiff.

The use of the *x*-ray photograph is increasingly employed to illustrate and make clear the nature of subsurface injuries.

I almost overlooked mentioning the fact that occasionally it occurs that a plaintiff suing for injury seeks to attribute evidence of a prior injury to the accident for which damages are sought.

In the trial of an action there is a tendency upon the part of the plaintiff to magnify not only the injuries received but the results which ensue from them; and this is not attributable to a dishonest intent upon the part of the plaintiff. There is likewise a similar inclination on the part of the defendant to minimize the injuries which the plaintiff has sustained. This inclination on the part of the litigants leads me to the conclusion that the seriousness of the injuries is likely to lay somewhere between the claim made by the plaintiff and that made by the defendant.

In spite of all the criticisms I hear upon medical experts during the progress of litigated cases I am daily impressed with the honesty and sincerity of the opinions expressed by them concerning the condition of patients under their observation. There is no other way available to litigants of indicating to courts and juries the condition of the patients under their charge except the system which is now in universal practice.

The counsel I have to offer to lawyers, litigants and experts is to overcome the tendency to exaggerate. When this inclination is too highly developed it has a strong influence toward the defeat of the very purpose which it is intended to serve. The influence of ridicule upon the minds of jurors is a strong one and if the situation is so presented as to lay the case open to that accusation it may entirely defeat the plaintiff's cause or the defendant's defense.

In these observations which have come to me after long experience in the trial of cases in which the opinions of experts form a necessary part of the subject matter of plaintiffs' causes of action and defendants' defenses, there is no system which can be devised that has not its imperfections or the opportunity of working a grave wrong.

The cases in which there is a deliberate attempt to utterly deceive are so rare as to be almost negligible. That they do sometimes occur is apparent to every judge who is sitting in trials where testimony of this character is received.

Whenever an effort to deceive is attempted the alertness of the trial judge usually prevents a miscarriage of justice.

Discussion by Charles A. Boston, Esq.

Following Judge Humphrey's paper Charles A. Boston, Esq., in discussing the paper addressed the meeting preparatory to the introduction of a resolution, which is appended hereto and which was duly adopted. The following is a summary of his remarks:

"This society has existed for about thirty-five years, and one of its declared purposes in its constitution is the improvement of medical expert testimony. It has frequently taken steps looking to legislative relief, and has proposed and supported various expedients for the improvement of the conditions attending the introduction in our courts of medical expert testimony. Of late a renewed interest has been awakened in the use and abuse of the hypothetical question, and in the whole subject of medical expert testimony, and the paper of this evening is consequently extremely timely.

"At the request of the editor of the MEDICAL TIMES sometime since Dr. Reynold Webb Wilcox, representing the medical view, and I, representing the legal view, contributed articles on the hypothetical question, which the editor published under the query: Should the Hypothetical Question in Murder Trials be Abolished, but my paper went much more extensively into the subject than this caption would indicate, and it was subsequently read at the last annual meeting of the American Society of Medical Jurisprudence, though I was absent through illness, and it formed my contribution to the material for discussion at that meeting.

"Since then the same subject has been diligently taken up for consideration by a group of lawyers which has met for many years monthly at the City Club for the discussion of practical problems of interest to the profession. Its first object was to discuss questions of professional ethics, and its efforts resulted in the establishment of the present system pursued by the Committee on Professional Ethics of the New York County Lawyers Association in advising lawyers and others respecting questions of professional propriety. It then turned its attention to the formulation of an ideal judiciary article for a state constitution, which was presented and urged before the Judiciary Committee of the recent Constitutional Convention in New York. It has since been the subject of discussion and improvement in form by a committee of the Phi Delta Phi, a fraternity composed exclusively of lawyers, and has been the subject of discussion in the *Bulletin* of the American Judicature Society.

"Having launched this effort toward the adoption of an ideal judiciary article in a state constitution, the group has now turned its attention to the problem of the hypothetical question, with the view, after sufficient deliberation, to promulgating a suggestion for the improvement of present conditions which are the subject of so much bitter criticism based upon the exhibition of the hypothetical question in practice, and dissatisfaction with its results."

Mr. Boston then enumerated some of the criticisms of the hypothetical question, and some of the suggestions which have been made for the reform of the present practice, all of which are now under consideration in committee of the group which he mentioned. He expressed no opinion upon the efficiency of any of them, though he freely stated that perhaps some of the suggestions would be criticised as unconstitutional, or as inconsistent with our present views of judicial administration. His sole reason for bringing the matter to the attention of the society at this present opportune time being to enable the society to appoint a committee for the consideration of the same subject matter, and, perhaps, in cooperation with this group of lawyers. He pointed out the following suggestions or recommendations which had been made, and were under consideration, namely.

Legislation or practice permitting the hypothetical question to be condensed and its language simplified;

A suggestion that the court should help in the formulation of questions, as it now passes upon prayers for instructions to the jury.

That the courts should be duly organized for business administration, and their organization and administration should be improved by modern ideas of efficiency.

That only one expert be chosen to advise the court and jury, either by agreement of counsel or by designation of the judge.

That much of the criticism of experts is due to the fact that they are not all in the same case asked the same question, but frequently their apparently irreconcilable differences in opinion are due to the fundamental

differences in the questions propounded to the experts.

It has been suggested that it should be made imperative that expert witnesses in connection with their testimony in chief should explain to court and jury in ordinary intelligible language what the witnesses deem essential in reaching their conclusions.

A rule which was sought to be established in this State, but has been severely criticised elsewhere—to the effect that an expert should not be allowed to give his reasons for his opinion in his examination in chief—should be uniformly condemned, and what under the provisions of the decision in question would not be permitted, should be made obligatory.

That steps should be taken to so reform judicial procedure as to condense and simplify the hypothetical question. That there has been in some directions judicial criticism of the obvious dishonesty or unfairness of professional witnesses.

It has been suggested that judges should unite in the consideration of a sufficient remedy, and not leave the solution to be deprived of the advantage of their suggestions born of experience.

It has even been suggested that a judge who from his experience of an expert witness is convinced of his bad faith should be empowered to exclude him on that account from testifying, although otherwise qualified.

It has even been suggested that there should be a character examination for the qualification of standing experts.

Other critics have gone so far as to insist that the fundamental difficulty lies in the false assumption that the laymen on the jury can appreciate the, to them unknown, language of technical matters in respect to which experts are called on to express an opinion, and, further, that the lawyer is frequently ignorant of the technical details of the science or art which is the subject of investigation and advice; but that at all events the jury is most frequently essentially ignorant and is only befuddled when it comes to a chemical or an electrical expert, whose testimony is necessarily unintelligible to the jury as his language is wholly unknown, and that the chief fault lies in the fallacy of the method of jury trials; that no question requiring expert evidence, except of the simplest kind, should be tried before a jury, but that invariably such actions should be referred, as accounting cases are now referred, through the general recognition that juries are incompetent to deal with matters of long accountings through their lack of facility, education and intelligence; that what the early judges recognized as an incapacity in the jury (though other reasons for taking matters of account away from the jury are given) should now be recognized as a psychological fact and extended to investigations requiring the testimony of expert witnesses; that everything now points to the inadequacy of our present system in dealing with this question as it should be dealt with.

Thereupon Mr. Boston, who expressed no personal opinion upon any of the foregoing suggestions, moved the adoption of the following resolution, which was duly adopted, to wit:

"Resolved, That the President be empowered and requested to appoint a committee of three to co-operate with other bodies in considerating the reform of methods of eliciting and treating expert and opinion evidence, and to report to the Society at its convenience."

Errata.

Through a regrettable typographical error the article on The Reclamation of Drug Addicts on p. 125 of our May issue, was credited to Charles F. Hunter, M. D., whereas, it should have read, Charles F. Hunt, M. D.

SYPHILITIC LABYRINTHITIS

With Report of a Case.

MAX LUBMAN, M. D.

ASSISTANT, EAR, NOSE, AND THROAT, O. D. DEPARTMENT OF MOUNT SINAI HOSPITAL.

New York.

The importance of a Wassermann in any obscure case where no etiological factor explains the pathological conditions cannot be too strongly emphasized.

To treat any disease intelligently two factors are absolutely essential; namely, etiology and pathology. The former treats of the causes of disease, the latter of the modifications of functions and changes of structures caused by disease. Once these two factors are established the diagnosis is automatic and the therapeutics a matter of routine.

These two factors are especially important in syphilis. Syphilis is a very mysterious disease, not because no organ is immune from its attack or because its manifestations at times are so innocent as to deceive even a very careful observer, but because it may be acquired through heredity whereby the patient is entirely ignorant of its existence and even the minutest analysis of the history will give no inkling of its presence unless a Wassermann is taken. Not until then can one be positive of his diagnosis, no matter how the symptoms collectively may dovetail and point to a certain pathological condition.

Miss F. S. Single, 22 years old; Russian by birth; waist operator by occupation.

Family History: Father died at the age of 47 from cancer of the stomach; mother living and well; has three brothers and one sister; all are single and well.

Personal History: Had diphtheria and measles and recovered from both without complications. No headache or earache and no sore throat.

On July 2, 1917, while at work she suddenly felt a pull in the right ear with vertigo, dizziness, timitus and nausea. She held on to her machine to prevent falling to the floor. She did not lose consciousness and vomited once. She was taken home and the family physician advised her removal to the hospital as meningitis was suspected.

The patient preferred to lie upon her left side, as this position greatly diminished the vertigo and dizziness. It was noticed that she did not hear in the right ear and thus deafness was admitted by the patient. On July 3 I visited the patient and found her lying upon the left side. Pulse was 85, temperature by rectum was 99°, resperation 20. I turned her over slowly upon her back and noticed spontaneous nystagmus to the left. Pupils were equal and reacted to light and accommodation. I did not notice any facial paralysis except that when she whistled, the right orbicularis muscle seemed to be affected. As a child the patient took pleasure in whistling and her mother noticed this same asymmetry. It may be a congenital condition.

There were no palpable glands in the inguinal auxiliary or cervical regions. The examination of the ear was negative. Tuning forks were not heard by ear or bone. A tuning fork on the forehead lateralized to the left. Applying a noise apparatus on the left ear she did not hear any loud voice in the right ear. She did not hear an alarm clock applied to the ear. Urine examination was neg. Blood pressure was systolic 120, diastolic 80. I was not permitted to make a Wassermann. The dizziness diminished in four days, but she was still unable to walk. In ten days the vertigo and nystagmus disappeared simultaneously. She began to convalesce and went to the country for recuperation.

The original diagnosis in the case, I am reporting was labyrinthine hemorrhage (Meniere's Disease). Though the symptoms were pathognomonic of the above diagnosis there was one weak link in the chain. What was the etiological factor producing the hemorrhage? Not until some time later, when a Wassermann was taken could I diagnose the case correctly, namely, syphilitic labyrinthitis.

The original diagnosis in the case I am reporting was labyrinthine hemorrhage (Meniere's disease).

*Presented at the New York Physicians' Association on November 29, 1917.

Though the symptoms were pathognomonic of the above diagnosis there was one weak link in the chain. What was the etiological factor producing the hemorrhage? Not until some time later when a Wessermann was taken could I diagnose the case correctly, namely, syphilitic labyrinthitis.

616 Madison Avenue.

THE INTRAVENOUS TREATMENT OF SYPHILIS WITH SALVARSAN AND NEOSALVARSAN.*

H. SHERIDAN BAKETEL, A.M., M.D.

PROFESSOR OF PREVENTIVE MEDICINE AND HYGIENE AND LECTURER ON GENITOURINARY DISEASES AND SYPHILIS, THE LONG ISLAND COLLEGE HOSPITAL; GENITOURINARY SURGEON TO THE HOUSE OF RELIEF OF THE NEW YORK HOSPITAL; MAJOR MEDICAL RESERVE CORPS, U. S. ARMY.

Brooklyn.

Salvarsan or neosalvarsan must be properly prepared and properly administered to a patient who has been properly instructed regarding the condition of his gastrointestinal tract, if the greatest benefit is to be derived from the administration.

Technique of Preparation.

The patient must be carefully examined for any contraindications to the administration of an arsenical product. These include advanced cancer, Addison's disease, diseases of the circulatory organs and general organic conditions, in most instances including diseases of the kidneys, although some cases suffering from renal disturbance have been given salvarsan without difficulty. Tuberculosis, which was formerly looked upon as a contraindication, can not be so considered at this time, and pregnant women can also be injected if care is exercised. It is necessary for the physician to satisfy himself that the patient has no idiosyncrasy against arsenic, and the urine should be carefully examined for contraindicatory signs. A urinary examination is advisable before each injection of salvarsan.

On the night before the intended administration of salvarsan the patient should be given a thorough catharsis. No food should enter the stomach for at least six hours before the injection or for six hours thereafter. The purpose of this is to have the gastrointestinal canal as nearly empty as possible and thus prevent disagreeable after-effects. If the patient is faint, a glass of milk slowly sipped, or a cup of tea may be taken three hours after the injection.

Technique of Preparation of Salvarsan.

The technique of preparation and injection is all important. Every instrument and utensil which will be utilized for the injection, including rubber tubing, should be boiled in distilled water. The salvarsan ampule should be immersed in 95 per cent alcohol for twenty minutes, so that if there be a minute crack in the glass which is not visible to the eye its presence will be made manifest by the alcohol.

The water used must be distilled and sterilized on the day of the injection. Commercial water, not freshly distilled, such as is sold in some drug stores, is likely to contain saprophytes and sometimes pathogenic bacteria.

Fifty cubic centimeters of sterilized, distilled water is run into a glass cylinder at room temperature and the salvarsan is slowly sprinkled on the surface so that the drug does not touch the walls of the cylinder. By this method the product is more readily taken up and is less likely to form lumps. The liquid should be throughly agitated until a clear solution results.

In preparing an alkaline solution by means of sodium hydroxide, the hydrochloride is converted into the soluble disodium salt of the insoluble base dioxydiamidoarsenobenzene. Before adding the sodium hydroxide it is absolutely essential that every trace of salvarsan should be dissolved. When from 20 to 25 drops of absolutely chemically pure freshly prepared sodium hydroxide are slowly added, a turbid mixture results, which clears upon the addition of a few more drops. This solution is filtered into another cylinder and the necessary distilled water is added. A heavy dilution should be used, at least 25 c.c. per decigram of salvarsan. Many patients need 40 c.c. per decigram in order that no disturbance follow the injection.

One of the most important factors in this technique is the matter of filtering. The writer has previously called attention[1] to the danger of using sterilized absorbent cotton for this purpose. Chemical analysis of some cotton revealed the presence of an acid which is distinctly harmful. The acid was due to the formation of either hydrochloric acid from the bleaching salt of lime, to the action of sulphuric acid with which the cotton is treated to neutralize the alkalinity of the bleaching lime, or to the presence of both hydrochloric and sulphuric acid.

By using heavy layers of thoroughly sterilized gauze, all the difficulties which may follow the use of the absorbent cotton are obviated.

Technique of Injection of Salvarsan.

The apparatus employed may be simple or complicated. A practical outfit includes two 300 c.c. alkali-free glass cylinders, one for the salvarsan solution and the other for sterile distilled water, suspended on a stand which permits them to be raised 4 feet above the patient. Rubber tubing from each cylinder ends in a Morton three-way stopcock which permits the operator first to introduce 15 c.c. of distilled water into the vein so as to prevent any possible infiltration by salvarsan, and then to switch to the salvarsan.

The patient with shirt and collar removed should be laid on the office or operating table with the bared arm resting on an instrument table. The operator can thus have his working tools directly at hand. Having made certain that the circulation is not restricted by a tightly rolled undershirt sleeve, the arm in the region of the elbow is carefully washed with alcohol or painted with iodin. A tourniquet (a rubber catheter serves admirably) is applied and tied as one ties a half bow knot, so that it can be readily loosened; or it can be held tightly in place by a pair of artery forceps. The veins stand out and usually the operator has his choice of several. If the veins do not become prominent under compression, a few smart slaps usually prove effective.

The vein of choice is the cephalic just below the point where the median basilic is given off, as at this place a level spot is offered, whereas a little higher up the bend of the elbow is encountered with its attendant inconvenience for the entrance of the needle. If for any reason this vein is not available, the basilic, just above or below the junction with the median antibrachial, offers the most attractive site of entrance. Sometimes the accessory cephalic is large enough for the easy insertion of a needle and as a *dernier ressort* the physician is sometimes compelled to use the median antibrachial near the wrist or one of the oblique branches connecting the

* Published in Health News, Albany, Vol. XIII, No. 4.

[1] MEDICAL TIMES, March, 1917.

basilic and cephalic. These veins near the wrist are usually so small that much skill is required for the introduction of a needle of fine calibre.

After choosing the vein and having requested the patient to clinch his fist the operator should steady the vein between thumb and forefinger and then plunge the Fordyce needle directly into the vein. Its proper entrance is indicated by a rapid backward flow of blood through the needle. The needle should be moved from side to side to make certain that its sharp point is not caught in the lumen. The operator then rapidly attaches the nozzle on the end of the rubber tubing to the needle and allows 3 or 4 cubic centimeters of blood to flow back until it can be observed in the glass window between the nozzle and the Morton stopcock.

The tourniquet is released by a quick pull at one end of the catheter or by opening the artery forceps and 15 c.c. of distilled water are injected. If there is no infiltration, salvarsan is switched on and injected very slowly.

After the entire amount of the drug has been injected, the operator again turns on the distilled water to make certain that if there should be a leakage from the vein, there will be a distilled water and not a salvarsan solution in the tissues. A Fordyce needle and rubber tourniquet completes the necessary apparatus. When the needle has been removed from the vein, the oozing can be controlled by digital pressure, after which the wound of entrance can be sealed with collodion. This obviates the necessity of a bandage. The patient is allowed to remain on the table in a recumbent position for from 15 to 30 minutes and, if the treatment has been made in the physician's office, is then sent home and to bed.

If the needle for any reason pierces the lumen of the vein sufficiently to cause infiltration, it is necessary to inject into the middle of the tumor a few cubic centimeters of distilled water. This will reduce the chance of necrosis to a minimum, as absorption will be promoted. Such accidents may occur if the point of the needle is too long, if it be so dull that much force is required to penetrate the skin and wall of the vein, or if care is not taken to steady the vein between thumb and forefinger when making the injection. Under no consideration should the physician cut down upon a vein. The telltale scar will forever condemn him and will stand as a mute monument to his lack of skill.

After the injection the apparatus should again be immersed in distilled water and boiled.

Necessity of Perfect Neutralization.

Particular emphasis must be placed on the necessity of having the naturalizing agent, sodium hydroxide, not only chemically pure but also made into solution on the day of the administration of the drug. Not long since, ten injections of salvarsan were given by the author to patients who had had a varying number of injections. Each patient had a reaction, some moderate and some severe enough to produce purging and vomiting. Indeed, for a short time one man displayed symptoms of mental confusion. In view of the care which was exercised in technique, each step of the proceedings was carefully gone over and checked up, and the only conclusion reached was that the sodium hydroxide was at fault. This was sent to a chemist who reported that it contained 13.52 per cent sodium hydroxide instead of 15 per cent. and .93 per cent. sodium carbonate. While the solution was freshly made, it was known that the bottle had been utilized for some time for keeping sodium hydroxide, the old being poured out and new being introduced without washing, so that there was a certain amount of decomposed sodium hydroxide in the bottle when each new solution had been added. In consequence, this series of reactions occurred. Since correcting this fault, there has been no further difficulty.

Technique of Injection of Neosalvarsan.

The preparation of the patient is identical with that for salvarsan, and similar rules for emptying the gastro-intestinal tract should be observed. Neosalvarsan is neutral in reaction and therefore needs no neutralization, as does salvarsan. It can be given diluted in a salvarsan apparatus by the gravity method or in concentrated form, which is a simple, convenient and effective procedure.

The apparatus necessary for the injection of neosalvarsan in the concentrated form includes a small Luer syringe of from 20 to 30 c.c. capacity, a Fordyce needle with a long, sharp cutting edge and a glass tumbler, alkali-free if obtainable. The syringe, needle, and tumbler must be boiled in distilled water and the glass ampule of neosalvarsan should be immersed in 95 per cent alcohol for 20 minutes. Into the sterilized tumbler from 15 to 25 c.c. of freshly distilled and sterilized water should be poured, and the contents of the ampule of neosalvarsan dissolved in the water by sprinkling it equally over the surface, thus causing it to go speedily into solution. The fluid is drawn up into the syringe, which should then be wrapped in a sterile towel.

The patient should be prepared as for a salvarsan injection. The arm is sterilized, the vein chosen and the Fordyce needle introduced into the vein. The syringe is attached directly to the needle and, if the entrance is properly affected, blood flows back into the syringe and the needle is freely movable.

The tourniquet is released and the neosalvarsan, now changed from a light yellow to a dark red, is injected very slowly. From one to two minutes should be consumed in the injection. The toilet and after-treatment is the same as for salvarsan.

Frequency of Salvarsan and Neosalvarsan Injections.

Some syphilographers have administered salvarsan and neosalvarsan as frequently as once every 24 hours. It is believed, however, that one injection every five days in acute cases, and once a week in secondary and tertiary cases, meets every indication.

I am of the opinion that under ordinary circumstances 0.4 salvarsan is a sufficient dose.

It must be borne in mind that mercury in some form must be given weekly in conjunction with salvarsan or neosalvarsan, but it should not be administered on the same day. The writer has used the salicylate, succinimide and bichloride and believes that different forms of the mercurial salts are best adapted to different cases. Mercury by the mouth is far inferior to inunction or deep injection into the gluteal muscles.

There are no hard and fast rules in the treatment of syphilis. Every patient is a law unto himself; but there are certain fundamentals, such as have been laid down, which suggest themselves as adapted to most cases.

54 Sidney Place.

Many of the viscera become the seat of extensive fatty deposits in obese persons; this tends to habits of indolence, and so favors the increase of obesity. An excellent illustration of this is presented by the liver, which may become greatly enlarged and weigh many pounds more than the healthy organ. The proportion of the fat may rise from the normal of ¼ per cent. of the hepatic tissue to 30 or even 80 per cent.

The surgeon who first removed an appendix has passed away and we suppose his final years were somewhat embittered by the fact that they had begun to pull teeth for everything.—(*Med. Herald.*)

PROCESS OF RACE IMPROVEMENT.

CASPER L. REDFIELD,
Chicago.

A cow produces a certain quantity of milk per day when she has her first calf. If she is regularly milked and properly cared for she will produce a larger quantity of milk per day when she has her second calf; a still larger quantity per day when she has her third calf; and so on up to some undetermined point.

This is a fact well known, and one which has received official recognition. For example, the Holstein-Friesian Association, early in their proceeding, adopted a ten-day standard for milk production as follows:

TEN-DAY MILK STANDARD.

Two-year-old	354 lbs.
Three-year-old	432 lbs.
Four-year-old	511 lbs.
Five-year-old and over	589 lbs.

The official standard did not extend beyond five years, but actual increase in milk-producing power is known to extend beyond six years of age. This increase in milk-producing power as the years go by is clearly the result of developing organs by exercise. It corresponds to a man gaining strength by exercise in a gymnasium, and to a trotter gaining trotting power by being trained. It is well known that trotters continue to gain under continuous training up to a high age, but that they do not gain if the training is discontinued.

Let us take a sample pedigree and consider what effect is produced upon progeny by more or less development of the milk-producing power of the cow at the time the calf is produced. The diagram given represents the pedigree of a "milk-producer" extended to her great-granddams. Is the power of "milk-producer" modified in any way by the fact that she, her parents and her grandparents were first, second, third, fourth or later calves of their dams? In other words, is the milk-producing power of progeny and later descendants influenced by the extent to which a dam has developed her own power before she produces her offspring?

	Sire	G. Sire	G. G. Dam
		G. Dam	G. G. Dam
Milk Producer.			
	Dam	G. Sire	G. G. Dam
		G. Dam	G. G. Dam

This matter was tested by determining the number of first, second, third, etc., calves in a normal population of 1,000 cows of the Holstein-Friesian breed, and then determining the number of first, second, third, etc., calves in 1,000 animals found in the pedigrees of the 144 Holstein-Friesian cows producing the greatest quantities of milk. A comparison between the two makes it clear what calves are the best to preserve when the thing desired is improving the milk-producing power of cows. The table showing the results of this investigation is as follows:

Distribution of Calves in Normal and in Best Pedigrees:

	Normal Pedigrees	Best Pedigrees	Percentage of Normal
First calves	317	142	44.72
Second calves	193	130	67.50
Third calves	145	141	92.24
Fourth calves	106	109	102.44
5th and 6th calves	142	219	154.12
7th to 9th calves	80	185	228.68
Later calves	17	74	435.30
	1,000	1,000	

The table shows that when it comes to producing cows with great milk-producing capabilities they do not come from the normal process of breeding, but do come from successive generations of old cows which had previously developed their milk-producing powers. Putting the last column of the table into the form of a diagram we have something which is plain to the eye.

These facts were published in *The Holstein-Friesian Register* in 1907, and are beyond all dispute. But biologists, having a theory which they are anxious to sustain, do not like to have these facts mentioned in public, and use various methods to break the force of them. One method used by them for this purpose is to get up an investigation of something else and palm it off on the public as being the same thing, and then refer to that fake as being evidence against my contention. Another method used by them in attempting to discredit the facts is to call any reference to them a "dogmatic statement." Still another method is to designate the facts as "foolish ideas," the obvious intent being to deceive the public into believing the facts are imaginary and not real.

A cow acquires milk-producing power by performing milk-producing work, and stating the number of calves she has had is a way of measuring her acquirement in terms of the work necessary to obtain it. Another way is to state her age—the assumption being that she has produced calves regularly in the ordinary manner. It is to be observed that none of those persons who deny the inheritance of acquirements ever measured up an acquirement in terms of the work necessary to produce it. Their literature does not show a single example of the kind, and if they have any scientific information on the subject they are concealing it from the public.

While we may represent the milk-producing acquirement of a cow by stating her age, we cannot give the trotting education (acquirement) of a horse by so simple a method. The reason is that some horses are scientifically trained and acquire trotting development very rapidly; other horses perform ordinary trotting work and acquire development more gradually; while still other horses vegetate in a breeding establishment and acquire no development at all. To measure the acquirement of a horse we must measure the amount of his work, and that requires a knowledge of both his age and the degree of his activity. But when we do carry through this matter of measuring the acquirement of horses in terms of the work necessary to obtain it, and compare the progeny with the previous acquirement, we get the same form of diagram for horses that we get for cows. Improvement in trotting power from generation to generation comes through those horses which made large acquirements before reproducing, and it comes through no other kind.

In acquiring physical development (muscular strength) human beings are like the horses and not like the cows. Some men go in for special physical training and develop physical powers rapidly; others work more moderately and develop strength more slowly; while others follow sedentary lives and lose rather than gain physical strength. In the development of mental powers by mental work, men are more like the cows than like the horses. Men are mentally active by reason of contact with their fellow men, but some are much more active than others. Professional and business men are mentally active to a high degree, while farmers and laborers are less so.

Taking these various things into consideration it will be evident that we can measure mental acquirement in terms of mental work, just as we measure milk-producing acquirement in terms of milk-producing work, and trotting acquirement in terms of trotting work.

When we do that and make the proper comparison we find the same diagram for men that we found for cows and horses. The inherited mental powers of the race develop from generation to generation by giving parents large amounts of education before they reproduce, and not in any other way.

The average parent, male and female both considered, is about thirty years of age when the average child is born. That average parent has acquired a certain average education at that time, and that education represents the mental work which measures the mental development of the parent. That education is partly that obtained in schools, but principally that which comes from contact with the world. If the parents of a given child are above the average parent in mental acquirement, either by reason of intensive mental activity or by reason of being more than thirty years of age when the child is born, then the child will inherit a mental power greater than that inherited by the average child. If the parents are below the average parent, either by reason of youthfulness or lack of mental activity, then the inheritance of the child will be below that of the average child. For various reasons which I have discussed more fully in *Dynamic Evolution* (Putnam), these things are not ordinarily seen in the child during childhood, or in the offspring when the investigation is carried no further than the parent. But extend the investigation to two or three successive generations of parents in which the acquirement is either above or below the average, and the fact of the inheritance of acquirements immediately becomes plain.

According to the census of 1910, about 600,000 persons in the United States were married persons less than twenty years of age. Probably a great majority of them were parents at that time, or about to become parents. A twenty-year-old parent is much below the average parent in that mental development which goes to produce improvement in offspring. In other words, those 600,000 parents were relatively feeble-minded *as parents,* even though they may have been normal-minded or superior-minded as individuals. Feeble-minded parents produce feeble-minded offspring, and permitting minors to produce children is one way of carrying the race backward in intelligence. Shutting off the marriage of minors is the first and most important step to be taken in improving the race.

525 Monadnock Block.

PRE-MEDICAL TRAINING IN CHEMISTRY.

FREDERICK S. HAMMETT, Ph.D.,
HARVARD MEDICAL SCHOOL
Boston.

As a country we are rubbing the sleep out of our eyes and wishing we had split the kindling and brought up the coal the night before. The alarm clock has been ringing for some time, but we have preferred our dreams of ease to the realities of necessities.

The medical profession is awake and trying to start the water boiling, but finds it cannot lay the fire. The wood and coal are at hand, but the knowledge of their proper use is lacking. Now, more than ever, do progressive physicians realize the dependency of successful practice on a well founded knowledge of the chemistry of the human body, and more than ever do they irritably contemplate their lack of preparation.

This lack of preparation in a science so obviously fundamental to rational understanding of the human mechanism as to require no elaboration, at present exists: that a continuation of this condition should be allowed is a parody upon our intelligence.

The futility of expecting the physician to utilize all possible sources of relief to suffering without a knowledge of the application of basic chemical principles to the body reactions is apparent.

It is equally as absurd to expect the medical student to appreciate or assimilate the possibility of chemistry being a practical science for his uses, if he does not have sufficient foundation in this subject, before he enters the medical school.

The medical school is fundamentally a school of applied science. It is where the individual is taught science as applied to the human body. Any attempt to teach a student biological chemistry without his having received an adequate foundation in the fundamental principles of chemistry in general, and to expect him to know much of anything when we are through with him, is as idiotic as to try to teach calculus to men who have yet to know algebra. The foundation must be laid in the pre-medical work.

It is only in recent years that the teaching of elementary chemistry has been dropped from the medical curriculum. Unfortunately, however, even to-day it is only the few schools interested in turning out doctors instead of groups of men competent to pass State-Board examinations, that have adapted themselves to the logical demand of the times as justified by the ever-increasing applicability of chemical science to medical practice, and brought about this necessary change.

It is admitted that plausible excuse for this disorderliness exists. The appearance of chemistry as a real aid to diagnosis and treatment from the Stygean darkness has been not only remarkable for the rapidity of its development, but amazing in its stability. A new phase in medical knowledge has been produced through the pressure of the discoveries of countless investigators. And it is not surprising that the now should-be obsolete system clings tenaciously to the older but invalid conceptions.

It is well recognized that the efficient practice of medicine entails a scientific knowledge of ever-widening scope. It is therefore of the greatest importance that a proper selection of scientific information be presented to the prospective medical student for his assimilation. Purposeless instruction, from the standpoint of view of the pre-medical student, is haphazard and yields results that are worse than nothing.

Conscientious objectors will mentally raise the objection that the pre-medical requirements are already well set down in the regulations of the various medical schools and by the American Medical Association. From the quantitative standpoint this is largely true, but from the point of quality the field is barren. And whereas these dicta were sufficient for the time and admirable in that an appreciation of the increasing importance of chemistry to the practice of medicine was shown, yet such advantages are now possible to be derived from a more exact definition of requirements that a change is imperative else stagnation will set in. For, mark you, while directions are given that so much inorganic, and so much organic, and so much advanced chemistry should be given, nothing is said about what of inorganic, and what of organic or what of advanced should be taught. To chemists it is a matter of individual experience that any of the various branches of the science can well occupy the studies of a lifetime.

So why try to make the pre-medical student a chemist. He wants to be a physician, and he wants to learn

* Read before the 55th Annual Meeting of the American Chemical Society.

what of chemistry there is that can help him to be a better physician, but instead of getting what he wants he is put through the mill with the students who wish to enter upon chemistry as a life work, gets so far and no farther, wonders what it is all about, takes a good dose of physic in the form of an examination and gets rid of all he had taken in. If the college instructors of pre-medical students should look upon them as a problem in research, the results would never see the light.

Now this pre-medical training in chemistry is essentially a question of WHAT instead of HOW MUCH, and the decision as to the subject matter to be offered for utilization is not especially difficult if one cares to look into a biological chemistry for a few hours. What the pre-medical student needs is to learn the fundamental principles common to all chemical reaction. He does not need enclyclopedic details. Principles are to details as granite is to sand. And these principles should be the high points in the work, they should not be obscured by a fog of wearying and relatively unimportant details. Let me illustrate; the understanding of the nature of oxides is a principle, the number and formulæ of the oxides of iron is an unessential detail; and again, the phenomena of isomerism is a principle, the ability to enumerate all possible isomerides of a given compound is detail.

Principle must not be subordinated to detail.

Human health and happiness rest to a great degree in the physician's hands. The true physician must be a true diagnostician. He cannot be a diagnostician if he lacks power of observation and ability to carry on deductive reasoning. Where better can he gain this fundamental training than in chemistry? And can he get this point of view in a mind befuddled with inconsequential detail? Another essential attribute of the efficient doctor is technique. The ability to rapidly, smoothly, and accurately carry on delicate manipulations is a prime requisite for adequate medical service. What teaches this better than intensive training in quantitative analysis? Can we conclude from the results handed over to us that these things have been done? We can not.

Any teacher of biological chemistry in a medical school knows how flimsy a chemical structure has been erected in the minds of the students coming to him, and that the information acquired is about as useful as is a cob-web for catching fish.

The causes of this are self-evident. Probably the most satisfying reason lies in the newness of the possibilities of the application of the science of chemistry to diagnosis and treatment. The collegiate instructor has failed to appreciate the progressing utilization of chemistry by the biological sciences. There is a chasm between what the instructor knows and attempts to teach to the pre-medical student and what the pre-medical student needs. And as a result the student falls into the chasm, and is lost. It is the job of the collegiate instructor to bridge the gap through constructive co-operation. The medical school instructor has not been sufficiently insistent on preliminary requirements from a qualitative standpoint, nor has he shown any special inclination to relate the needs of the situation. These facts when coupled with the disinclination of the college teacher of chemistry to break away from the classical and now obsolete methods of teaching and inaugurate a system adapted to the demands of the times give some explanation of what at present confronts us. There is at hand a supply of potential useful information that lacks efficient assimilation because of the lack of understanding of fundamental principles.

The remedies are obvious. An attempt by the collegiate instructor in chemistry to learn something of what chemistry is doing in biology. A measure of co-operation between teachers of biological chemistry and the pre-medical instructors. A willingness on the part of the latter to recognize the validity of the wishes of the former. An outline of preparedness from the qualitative point of view. And a realization of the fact that true preparedness rests on understanding, while understanding can come only when detail is subordinated to principle.

Correspondence

Major Hays at the Front.

Major Harold Hays, M. R. C., one of the contributing editors of THE MEDICAL TIMES, sends this chatty note to the editor:

No. 1 General (Presbyterian)
Hospital, B. E. F.
April 25, 1918.

I was agreeably surprised to receive a letter from you the other day. It was long delayed in its travels round France apparently, for I see that it was written in September. First of all I want to tell you that I am having a wonderful time and an experience which I wouldn't have missed for anything in the world. It is almost impossible to give one an idea of the fascination of it all but it is the difference between watching a football game from the side-lines and being in the scrimmage.

I came over here to join the Presbyterian Hospital Unit the latter part of October. I found them comfortably nestled in a quaint little village on the Normandy coast where they were treating wounded Tommies every morning, playing golf every afternoon and whiling away the evenings with bridge. They were as fine a set of officers as I ever saw, with a big man at the head—George E. Brewer—and with William Darrach as second in command. The enlisted men were far above the average even to the cook of the officer's mess, who used to tickle the palates at the Ritz-Carlton. The only complaint I heard was that they weren't seeing enough dead Germans, chiefly due to the fact that the hospital is located too far away from the firing line to transport anything but live wounded material.

Unfortunately I found another nose and throat specialist here so there was little for me to do. I took charge of a ward of ingrown toenails, boils and sundries. After a few weeks at this edifying job I was ordered to the British front to join a Field Ambulance which at that time was trying to force itself into Cambrai. I was a trifle apprehensive, of course, but so excited when I heard the boom of the big guns and realized that I was in the real thing, that I forgot to be afraid. I went through the Cambrai affair with flying colors but I didn't notice that they pinned any medals on me. I stayed in a nice deep dug-out most of the time where I became well acquainted with rats and other animals. I fought them desperately but you don't get any medals for that.

During the next three months we tramped and tramped until it was a wonder I had any shoe leather left. Of course I learned a great many things, among them that a man can go without a bath for months if necessary and still maintain an air of respectability if he only sees to it that he shaves regularly every morning, washes his hands at least once a day and plasters his hair down properly. Moreover, I learned that one sleeps just as well in his clothes and that pajamas are totally unnecessary. There were times when the only water we could get was in shell holes and that wasn't very palatable.

In the latter part of January I was loaned to a battalion where I had the greatest fun of all, for we went into the trenches. I had the pleasure of hearing every kind of gun and also felt the warm whizz of a few machine gun bullets. We were in front of St. Quentin at the time and near enough for me to see people on the roof of the cathedral without my field glasses. I wandered through the trenches by day because my sanitary duties took me there and explored them by night just to prove to myself that I wasn't afraid. I philosophized on life a great deal and became enough of a fatalist and a believer in the hereafter to look death calmly in the face. I was more afraid of being painfully hurt than of being killed.

I was called back to the base about the first of March and

(*Continued on p.* 163.)

PERSONAL HISTORY OF APPLICANT FOR APPOINTMENT IN THE MEDICAL RESERVE CORPS, UNITED STATES ARMY.

Give your name *in full* (including your full middle name):.....

The date of your birth:..... The place of your birth:.....

When and where were you naturalized (if of alien birth)?.....

Are you married or single?..... Have you any children; if so, how many?.....

What is your height in inches?..... Your weight, in pounds?.....

Give the nature and dates of all serious sicknesses and injuries which you have suffered:.....

.....

.....

.....

Do you labor under any mental or physical infirmity which could interfere with the efficient discharge by you of the duties of a medical officer?.....

If either parent, or brother, or sister has died, state cause and age in each case:.....

Do you use intoxicating liquors or narcotics; if so, to what extent?.....

Have you found your health or habits to interfere with your success in civil life?.....

What academy, high school, college, or university have you attended? State periods of attendance from year to year, and whether you were graduated, giving date or dates of graduation:.....

.....

.....

Name any other educational advantage you have had, such as private tuition, foreign travel, etc.:.....

.....

Give all literary or scientific degrees you have taken, if any, names of institutions granting them, and dates:

.....

With what ancient or modern languages or branches of science are you acquainted?.....

When did you begin the study of medicine, and under whose direction? His residence?.....

.....

How many courses of lectures have you attended? Names of colleges and dates:.....

.....

When and where were you graduated in medicine?.....

(Fill this out and send it to the Surgeon General, U. S. Army, Washington D. C.)

Have you been before a State Examining Board? If so, state when, where, and with what result: .....

.....

Have you had service in a hospital? If so, state where and in what capacity, giving inclusive dates of each kind of service: .....

What clinical experience have you had in dispensary or private practice? .....

.....

Have you paid particular attention to any specialty in medicine; if so, what branch? .....

What opportunities for instruction or practice in operative surgery have you had? .....

.....

Have you previously been an applicant for entry into the United States service? If so, state when, where, and with what result: .....

Are you a member of the organized militia? If so, state with what organization and in what capacity. .....

.....

Have you been in the military or naval service of the United States? If so, give inclusive dates of service with each organization, designating it: .....

In case of war or threatened war, will you accept active service for duty with the Army, should your services be needed? .....

What occupation, if any, have you followed other than that of student or practitioner? .....

Present or temporary address:† .....

Permanent residence:† .....

I CERTIFY that to the best of my knowledge and belief the above statements are true.

Signature ☞ .....

Date, ..., 191

Subscribed and sworn to before me, this .....day of .....A. D. 191

[SEAL] .....

[Signature and official title.]

†The candidate should give his present address for correspondence, and also his permanent address to which he desires commission sent should he be appointed.

FORM 149
W. D. S. G. O.
(Revised March 6, 1912)

MEDICAL TIMES
July 1, 1917

.....*M. D.*

OF

.....

.....

.....*191*

FURNISHES PERSONAL HISTORY

IN CONNECTION WITH

APPLICATION FOR APPOINTMENT

IN THE

MEDICAL RESERVE CORPS,
U.S. ARMY

.....*Inclosures*

The Medical Times

A MONTHLY JOURNAL

OF

Medicine, Surgery, and the Collateral Sciences

ESTABLISHED IN 1872

EDITED BY

H. SHERIDAN BAKETEL, A.M., M.D.

ARTHUR C. JACOBSON, M.D.

Associate Editor.

Contributions.—EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this publication.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES:

(STRICTLY IN ADVANCE)

UNITED STATES, (Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)	$1.00 per year
CANADA,	$1.25 per year
FOREIGN COUNTRIES IN POSTAL UNION,	$1.50 per year

SINGLE COPIES, 15 CENTS

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded. Notify publisher promptly of change of address or if paper is not received regularly.

Remittances for suscriptions will not be acknowledged but dating on the wrapper will be changed on the first issue possible after receipt of same.

All communications should be addressed to and all checks made payable to the publishers,

MEDICAL TIMES CO.

ROMAINE PIERSON, *President and Treasurer*

H. SHERIDAN BAKETEL, *Secretary*

81 Fulton Street, - - - New York

Entered as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879.

NEW YORK, JUNE, 1918.

Brigadier General Robert E. Noble, Medical Corps.

The nomination to the rank of Brigadier General, Medical Corps, N. A., of Robert E. Noble, will meet with the hearty approbation of the entire medical profession of the United States. No medical officer of the army is better or more favorably known than the new general.

His service has been a series of achievements. Rising from the obscurity that surrounds young medical officers, General Noble laid the foundation for his splendid success while assistant to General William C. Gorgas at Panama. For a number of years he carried out the exacting duties which fell to his lot in the Canal Zone and there demonstrated his possession of the qualities of perseverance, tact, energy and professional skill which are so characteristic of him.

It is detracting in no way from the high reputation of the Surgeon General to say that a degree of his success in the Canal Zone was due to the unusual ability of his assistant who has just been given the star of a brigadier general.

After some service in the United States, General Noble was sent to Vera Cruz at the time of the occupation of that city by the army of the United States and there again he did valiant duty and performed signal service for the Medical Department of the army. His work stood out in that Southern city with distinct clearness and he had an opportunity of demonstrating his fitness for his position by the excellence of his accomplishments.

Later on, General Noble was returned to the United States and became the personnel officer of the Surgeon General. In this trying position, he has become known to the civilian medical profession through the unusual tact and discrimination he has exercised in carrying out the arduous duties of that office. The general has a wide knowledge of medical men in this country and he has shown keen judgment in taking men into the Medical Department of the army from civil life and placing them in the positions they are best fitted to occupy.

Very recently, in addition to the work of the Personnel Division, General Noble was placed in charge of the Division of Domestic Hospitals of the Surgeon General's office, which means that he will supervise the establishment of and be responsible for the management of the various hospitals in this country which are to be utilized for military purposes.

General Gorgas has, as usual, displayed rare discretion in the selection of a new brigadier general and there is not the slightest doubt in the minds of the medical profession of this country that General Noble will perform the duties of his high office under this higher rank with most marked ability. He takes into his new grade and into his new responsibilities the interest and affection of the thousands of medical men with whom he has come in contact during the time of his service as an officer of the army.

The Achievements of the Army Medical Department.

The American public gratefully acknowledges the unusual services rendered by Major-General William C. Gorgas, Surgeon-General of the United States Army, to medicine and to the army. The people appreciate the fact that as a result of his high scientific attainments, yellow fever has become a memory and that malaria is also being relegated to innocuous desuetude. They are awakening to the fact that not only is General Gorgas a great medical man and a scientist par excellence, but they are now learning that he has developed administrative qualities since the war began that are attracting special attention.

When war broke out, there were in the neighborhood of five hundred medical officers in the army. Today there are over seventeen thousand. A year ago the number of enlisted men in the Medical Department would only have made a couple of regiments as we now understand them; today there are, undoubtedly, more men in the Medical Department than there were in the whole army at the beginning of the war. We had no Ambulance Corps in April, 1917, but today more than six thousand men have been or are being trained to carry out the duties of this very important branch. The number of women nurses in the army when we entered this world's conflict was infinitesimally small; today there are many more female nurses than there are ambulance men, and so on through the list of organizations which are connected with the Medical Department. The Dental Corps has been amazingly increased and there are now enough dental surgeons for all the armies we are to raise for at least the next year.

Of especial interest to the people is the hospital situation. The *Army and Navy Journal* announces that General Robert E. Noble, Medical Corps, who has made a wonderful reputation during his occupancy of the very difficult personnel division of the Surgeon General's office, has also been placed in charge of the Division of Domestic Hospitals and this appointment in itself assures a safe, sane and farseeing policy in connection with the establishment of institutions for the care of sick and wounded soldiers. It is disclosing no confidence to say that as matters stand at present,

there are sufficient beds in the United States to take care of all our necessities for a considerable time to come and the fact that the Surgeon General has appointed a man who is a visualizer and who is living in the future and not in the past, means that every indication will be met for the successful care of all the soldiers who need medical or surgical attention.

The *Army and Navy Journal* makes the following statement, and it is, undoubtedly, authoritative:

"Hospitals in this country consist of the base hospitals of the National Army and National Guard, general and base hospitals, Regular Army hospitals, embarkation hospitals, etc., with a capacity at the present moment of 62,959 beds and an authorized total capacity of 91,645 beds. This should give ample accommodation for all cases that may be expected within the next few months. In addition to that are the reserves that may be found in public and private hospitals throughout the country, which it is not the intention of the Medical Corps to use except in an emergency that cannot now be anticipated. Besides the bed capacity of these institutions there is the full quota of surgeons and nurses, either now in attendance or subject to immediate call.

"The disposition of these hospitals is as follows: The base hospitals of the National Army have a bed capacity of 18,387, with an authorized increase of 14,808 beds; of the National Guard, 14,843, with an authorized increase of 8,880 beds; general hospitals, 16,209, with an authorized increase of 1,981 beds; Regular Army hospitals, 2,550; base hospitals, 7,664, with an authorized increase of 1,452 beds; embarkation hospitals, 3,306, with an authorized increase of 1,565 beds."

General Noble has not yet made any public announcement of his plans in this connection, but those who know him will rest content in the knowledge that he will meet every situation before it has become an emergency.

The call of the Surgeon General for more medical officers is meeting with a very grateful response. Physicians who are without family or whose overhead expenses are small or who have private incomes, are being particularly urged to enter the service. This will enable those men who cannot qualify in this way at this time to remain at home. In the event of greater demands, it will, undoubtedly, be necessary for men to go into the service to whom the idea at the moment seems out of the question. It is realized that men are staying back, not from lack of patriotic motives, but because of their inability to see their way clearly. The profession will, without the slightest shadow of doubt, uphold the Surgeon General to the fullest extent, but we must not forget that there is no time like the present and that he must be accorded the full strength desired now, in order to cope with the great questions which are bound to arise in the immediate future.

The Indispensability of the Independent Worker.

'Pass in, pass in,' the angels say,
'In to the upper doors,
Nor count compartments of the floors,
But mount to paradise
By the stairway of surprise.' —*Emerson.*

We can never get along without the free lance in medicine, the Corrigan, Sims, O'Dwyer and Trudeau type, although the whole powerful trend of the day seems toward a dreary standardization of all workers. The main idea of the endowed institutes and institutions seems to be to employ industrious, well trained and capable workers, who are expected to accomplish very interesting and more or less valuable things. But discipline and institutional limitation are not for the independent worker, and somehow or other he seems to get along without subsidies.

It is a commonplace, by the by, to say that medicine is an inductive science, but this takes no account of inspired apriorism. We should dismiss the fallacious half-truth from our minds. The inspired independent worker, the genius, in other words, employs both deductive and inductive methods with equal facility, but not in the only manner that the schoolmen know. Intuition (we dare to call it that, daring the smiles of disdain), with him, is the supreme arbiter as often as cold, inductive logic. Plato wasn't much hampered by the lack of data, it seems to us, but of course he was Plato. Dante could conceive of gravitation without Newtonian evidence; we have the proof in his writings, but he was Dante. Shakespeare, too, tells us that the center of the earth draws all things to it, and he also has a good deal to say about the circulation of the blood.

To the commonplace worker and administrator inspired deduction in medicine must seem a muddling way of proceeding, and indeed we fancy that both of these gentlemen would be inclined to challenge the very idea even before discussing the method. Of course, they would not attempt to apply it, not being capable of doing so. It is a function, as a rule, of the independent worker, and all the assets of his competitors within marble walls are as sounding brass and tinkling cymbals compared to it.

Well, the inspired independent worker sometimes waits for his mediocre fellows to dig out new data, although he can be himself a tremendous worker when so disposed, and then beats them to it when it comes to the formulation of general principles, and while he is waiting he formulates other general principles which are new to the workers and which compel them to work up data in substantiation without which he got along very well. Cullen long ago formulated the principle of increasing the patient's resistance against specific infections, without knowing anything of the modern data since accumulated in response to his abstract doctrine and intuitive dicta.

So it works out that the commonplace worker is eternally busy *confirming* things. A really creative worker in an endowed plant may be likened to the flower that one encounters at times in the midst of Alpine snows, or to the vegetation that one sees growing in the clefts of a mountain of sterile rock.

"When half-gods go
The gods arrive."

Intellectual Pathology.

We conceive the reactionary to be the outstanding type of intellectual pathology.

Be it understood that we are not discussing a phase of psychiatry, but merely the intellectual attitudes of our thinkers and men of action.

So far as the masses are concerned no particular attitude has to be considered, since they are passive subjects of the will of minority groups controlling popular thought, education, customs, morality (so-called), government, etc.

Farthest removed from the reactionary is the thinker of the Emerson-Thoreau-Whitman type—glorious individualist (anarchist, if you like).

Some people are in doubt as to whether Mr. Chesterton is a reactionary or a radical. To us he seems to be a kind of disguised revolutionist. Instead of attacking capitalism directly he protests against the things that are done to poor people because they are poor. Consequently he is said to be opposed to sanitation. He is said to be against prison reform, but what he is really afraid of is that if the prisons are made more humane "they will be more humane only in order to contain more humanity, and there will be more mercy in the prison on condition that there is less justice in the court." He is against prohibition because he thinks it a device of the master class to make more efficient

machines out of the workers. He has considered woman suffrage of no importance—the vote being a bourgeois bauble exercising no essential effect upon fundamental conditions. The rank and file of the political parties are made up of the same kind of people, hence nothing startling can ever happen in the modern state, so far as these parties are concerned. He has denounced eugenics as "the slave-owner's naive and unscrupulous scheme for getting a better breed of slaves." He is certainly a radical at heart, believing in the utter freedom of the human being, for he has opposed the syndicalists on the ground that they are not able to imagine away our present mode of machine production, but wish merely to own and operate the machines. That he considers death preferable to industrial slavery he makes clear in the lines about a strike at Christmas:

> It were better for such men as we,
> And it were nearer Bethlehem, if we lay
> Shot dead on scarlet snows for liberty—
> Dead in the sunlight upon Christmas Day.

All of which, we are convinced, exempts Mr. Chesterton of the charge of being intellectually ill.

The reactionary thinker and the reactionary man of action vastly preponderate in our world over the abnormal (supernormal?) but not pathological radical, and so far have exercised almost complete control over the proletariat. They and their influence are pathological because they keep the masses "steeped in prejudices, stunned by the clatter of events, exploited, and created of life." They cannot help doing this because the reactionary spirit is inherent. Like the paranoiac and feeble-minded classes they represent a distinct and pathological type of humankind. They are "built that way." The well known Prussian Junker is as good an example as any that might be cited. Our Helen Kellers complete their culture by developing their generous intellectual outlook despite the environment furnished by college, press and church—certainly not because of it.

In what, then, must lie our hope of a wholesome society? Only in some miraculous change that will give the control of things to another kind of minority group. Not evolution, and not economic determinism, but some miracle, must and will effect the change. Dell reminds us that "Christianity is a religion founded upon the memory of one of the greatest changes that ever took place on earth—and on the hope, not quite lost sight of in its revised dogmas, of a greater change."

To those who would take us to task for believing in miracles we reply with Mr. Chesterton: "But atheists believe in queerer things—they believe in eugenics."

The Satyrs and Messalinas Give Thanks.

"The sexual relation is absolutely unnecessary for either sex at any time or for any reason."

The foregoing quotation is from one of our sex hygiene educators.

But our sex educators themselves withhold the truth from our young people—the truth that would make them free.

If the whole truth about sex were known by one he would cease to be unduly enthralled by the glamour of the thing, no matter what his age.

All our sex hygiene teaching fails to take advantage of the great fact that the surest way to dispel erotic delusions is to tell the whole truth about sex.

Does not the unwillingness of the sex hygiene teachers to tell the truth, or their moral cowardice, enable people to foster unduly their erotic notions? Have we not an enormously developed eroticism whose chief psychological foundation is ignorance of the truths of sex?

Why should our sex hygienists be interested in maintaining a reticence about matters of sex which seem ingeniously and diabolically calculated to breed satyrs and Messalinas?

Certainly our satyrs and Messalinas who wish to continue to cultivate their obscene joys could not be better served than by our puritanical sex hygienists.

To rend the veil of the temple would indeed be a tremendous deed. The truth would make us a sexually sober people.

But no Hercules or Prometheus responds to the call.

Meanwhile the gods look down cynically upon the welter of eroticism, which it is their wish should continue.

Our civilization was called by Francis Thompson the new paganism.

Pagans we are, and pagans we shall remain, which is to say that we shall remain, among other things, erotically deluded.

To the sex hygienists, in behalf of the satyrs and Messalinas, a hearty thanks!

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

A Good Word for Tobacco.

When Lord Rhondda, the British food controller, said that "men would eat a great deal more if they did not have tobacco," he might also have added that in the event of its deprivation men's sexual instinct would be much enhanced.

There are reasons for believing that civilized man finds tobacco useful in tempering his passions. It has been necessary for him to find such a narcotic—and he has found one that is adequate.

Who are the men who smoke most if not the most virile? The physically impotent are so depressed by tobacco that they denounce the weed, naturally enough.

The craving of the man at the front for tobacco has sexual implications. The young man in the finest physical fettle must needs dull his edge a bit.

Tobacco for the boys will help them to master the impulses that strain at the moral leash, and so bring them home clean.

An Acid Test in the Diagnosis of Genius.

"Greatness," says Whitby, in his *Makers of Man*, "is essentially positive, but as Nature exacts a price for all her benefit it has inevitably a negative side. Hence the morbid correlations of genius which we have found so conspicuous, the dangers, mental and physical, that beset its path. Hence its frequent association (in respect of the stock from which it derives) with tuberculosis, with insanity, with emotional aberrations and vagaries, and with an abnormal mortality in such offspring as may be born to its possessors."

The mother of Bacon became insane, and so also did the mother of Turner. Lincoln's mother suffered from habitual depression and his father was a ne'er-do-well, always in debt and difficulty. Whitby thinks that tuberculous ancestry can be safely inferred in the cases of Richelieu, Nelson, Mozart, Descartes, Spinoza and Saint Francis. The father of Mahomet died when he was only two years old and his mother when he was eight. Of all Mahomet's children by his many

wives (estimated as twenty-five), only his daughter Fatima survived him, and she for only a short time.

Of Mozart's seven children only two survived infancy. Goethe had five children, of whom three were still-born; the youngest died in infancy and the eldest became an inebriate.

Renan's father was a spiritless and dreamy seaman who is supposed to have committed suicide. A brother of Emerson developed insanity and another brother was weak-minded, if not imbecile. Newton was the posthumous son of a father who died at thirty-six.

Shakespeare's line became extinct within a very few years after the poet's death.

A vast amount of evidence sustains the conclusion that genius derives from bad stock. So much is this the case that good ancestry and progeny in a case in question would go far toward invalidating the claim of genius. At any rate the character of the stock should be seriously considered along with other data upon which ultimate findings are based.

Thus do the gods gleefully set at naught the theories and plans of the solemn eugenists who, having eyes, yet see not.

Hybrids of Homo Sapiens.

The bearing of human hybridity upon political phenomena has been touched upon suggestively by Dr. Robert T. Morris in various contributions.

It would seem that there is also a psychiatric bearing.

Morris, of course, is not the first to have discussed the political effects of mongrelizing peoples. There have been differences of opinion, too, as to whether crossing is good or bad for the races. Morris clarifies the question by declaring that we must distinguish between varietal hybrids, resulting from the crossing of closely allied varieties, and specific hybrids, which result from the crossing of sub-species of man. "Varietal hybrid nations are prone to be durable of tenure, and stable under good leadership. The specific hybrid nations are prone to be turbulent under any leadership. All nations come and go like varieties of plants and animals and for the same reason, being subject to the laws of protoplasm. The salient actions in any nation may be anticipated by the naturalist who studies the particular habits of the hybrid groups representing that variety."

Examples of the varietal hybrid type are afforded by the Hohenzollerns, Guelphs, Romanoffs and Hapsburghs. Of course, senility of protoplasm and cultural limitations finally lead to the disintegration of the varietal hybrid type—a process aided in the case of the "protoplasmically senile German Government" by a union of other civilizations.

Examples of specific hybrids are found plentifully in Mexico (Spanish-Indian) and the south of Ireland (Mediterranean infusion). Morris makes the interesting remark that the unstable group of Eurasians who make up the anarchists and near-anarchists of New York City bring reproach upon the pure Semitic element of the human race because this group is not representative of the great Hebrew people, being really degenerate mongrels. He raises the question whether Trotzky may not be, after all, only a Eurasian hybrid.

The point which we wish to make regarding the psychiatric bearing of hybridity is that what might be called a new race of hybrids is very apt to find itself in a difficult environment, making for special strain. The children of a relatively pure race are born into an atmosphere natural to their parents and hence a stable atmosphere. But the children of a Greek mother and a Scotch father may find themselves in the midst of cultural, religious and social conflicts constituting a difficult environment.

Now assume poor neuropathic heredity in either case. In the case of the children of the relatively pure race a neurotic defect may sleep forever in abeyance, because of reasonably facile adjustment. In the case of the hybrids the conflict factors may prove too strong.

Here, in America, the bearing of hybridity upon insanity and social maladjustment in general ought to be susceptible of profitable study. Certainly there is a challenge in the extraordinary marital unions that take place.

For all practical psychiatric purposes it is of little consequence whether the bad results of specific hybridity are ascribable to purely biological factors or to peculiar environmental strain such as we have suggested.

The results are bad, and on that fact we can rest, or better—act.

(*Continued from p. 156.*)

I am now doing the nose, throat and ear work here. But I long for the front and wouldn't be at all surprised if I got there again. Major Brewer has left us to go to the American forces and Major Darrach is now C. O. He is very popular and therefore the unit is a great success.

We are not at all worried about the German push and are more confident of our success than ever. I am sorry to say that a number of my friends have been killed or taken prisoner. The medical officer whose place I took is now a prisoner so you can see that a divine Providence got me out just in time. Please write me soon again. I need some interesting reading matter so send me the TIMES. And write me when you get the chance.

Cordially yours,

HAROLD M. HAYS,
Major M. R. C., U. S. A.

Religion and Insanity.

To the Editor of the MEDICAL TIMES:

J. Danforth Taylor, in the April number of our journal, takes a fling at religion. It is not uncommon for an amateur in science to show how exceedingly smart he is by futile efforts to belittle religion. He forgets all that is good or trustworthy, and proclaims loudly that *science* is the only God or good—and that anything undemonstrable (to him) is foolishness—and everyone who cannot see through his glasses is insane and dangerous. He forgets that the majority of criminals are not religious and do not attend revivals and never "hit the trail." Religious training never sends people to the asylum, while criminal training by those who know not God fills and keeps full our prisons and insane asylums. Science (true science) does not belittle religion; does not try to poke fun at Jesus. There is no one single element so destructive to humanity as unbelief in the goodness of God. Self-sufficiency will, sooner or later, convince the doctor that science, aside from religion, is a broken stick.

W. P. HOWLE, M. D.

Charleston, Mo.

Intramuscular Injection of Calomel in Enteric.

Captain Galatà, of the Italian Navy, recommends the treatment of enteric fevers by intramuscular injection of calomel. The treatment is commenced in the first week of the disease, and 1.5 gr. of calomel is injected into the muscles of the buttock on the first and seventh day, 0.75 gr. on the fourth and tenth; the calomel is slowly absorbed at first but later more markedly; after the third injection temperature falls, the nervous symptoms decrease, and by the fourth injection the patient is almost well. He used this treatment with great advantage in seven out of nine cases of different infections which recently came under his notice.—(*Annali de Medicina Navale.*)

Medical Library Association.

Owing to present conditions and the difficulties of travel, the executive committee of the Library Association has decided to omit the regular annual meeting this year.

War Medicine and Surgery

A New Portable X-Ray Tube.

A new development in *x*-ray tube construction, which was compared by one speaker to the advent of the kodak in photography, was recently brought before the Röntgen Society, London. Like the hot-cathode tube which was introduced three or four years ago, this new arrival is also associated with the name of W. D. Coolidge and his Schenectady laboratories. It has been developed in America specifically for use with portable *x*-ray outfits in the United States army, but its characteristics are such that it may supplant ultimately the earlier types of hot-cathode tubes for all radiographic work.

This new tube is based on the same essential principles as the older Coolidge, but its bulb is no more than 3¾ inches in diameter. The target, which receives the cathode-ray bombardment, consists of a very small wrought tungsten "button," 0.1 in. thick, set in a solid block of copper, and this block is electrically welded to a copper stem extending right through the glass anode arm to an external copper radiator. The target with stem and radiator has a heat capacity several times greater than that of the solid tungsten target of the earlier models of the Coolidge tube, and, therefore, for a given heavy load, it must take several times as long to heat to redness. What is still more important, unlike the solid tungsten target, it cools rapidly between exposures owing to the radiator, to which is conducted the larger proportion of the energy imparted to the tube. The glass bulb may, therefore, be small, for the glass is not heated to the same extent as in the ordinary tube; each exposure also can be started with a relatively cool target, while, as a further result, the focal spot, although very small, is kept from reaching a temperature high enough to allow inverse current to pass through the tube.

The first model of the tube has been designed to carry 10 milliampères at a 5 in. parallel spark-gap for sufficient time to make the longest ordinary exposures, and, for screening, to carry a load of 5 milliampères at the same spark-gap indefinitely. A radiograph of the knee is obtainable in four seconds, and exposures for other parts are in proportion. The idea has been to make a tube suitable for portable outfits in the field which can be used directly from the secondary of a high-tension transformer without any auxiliary rectifying device; a portable generating unit, built round this tube, was also exhibited. The advantages claimed for the tube in diagnostic work were that it could be used to rectify its own current under much severer conditions of service than would be permissible with the ordinary type, that the bulb could be very much smaller while handling the same amount of energy, and that on either alternating or rectified current it would carry the maximum available energy for a much longer time.

In the portable field *x*-ray outfit of the United States army a petrol electric unit supplies alternating current at 110 volts to a transformer arranged to give both high tension and heating currents for the new radiator type of Coolidge tube. For simplicity of control the tube is worked at a constant potential of 5 in. equivalent spark-gap, and the current is adjusted to 5 milliampères for continuous running of the tube, or to 10 milliampères for short periods. An electrically actuated control on the throttle of the engine maintains constant output. The small size of the bulb enables a close-fitting lead-glass shield to be employed; this is made in two parts, and completely surrounds the tube, a suitable aperture permitting egress of the rays.—(*Brit. Med. Jour.*, Jan. 12, 1918.)

Primary Suture of War Wounds and Their Aseptic Treatment.

Chalier's practice is primary suture, after careful systematic clearance and wide anatomic opening up and removal of all contused and necrotic tissues (*Bull. et. mém. soc. de chir. de Par.*, 1917, xliii, 21).

Faure, who submitted Chalier's report to the society, stated that there was a great movement in favor of this method. He was convinced of this from his visit to hospitals at the front. While all are agreed upon the utility in the case of fresh wounds of wide openings and extensive excision of damaged tissues and removal of foreign bodies, yet the agreement ends there. To clean the wound ought antiseptics be used or not? There are advocates of both and both show good results. The one thing that is certain is that purely aseptic treatment, or the employment of antiseptics of the most varied kinds, when mechanical lavage of the wound has been thoroughly done, give identical results; and this shows while the utility of antiseptics has not quite been demonstrated, yet they have not the harmful effects which opponents claim for them.

With regard to Carrel's method it is certain that it was a great advance and by it secondary suture of wounds was rendered possible in a great number of cases. At the present time, however, owing to the improvement of the immediate treatment of recent wounds, primary suture of wounds can very often be attempted with success. The author says that the good results obtained without Carrel's procedure are superior to those obtained with it because an immediate suture is evidently better than a secondary one. Depage has in fact recently reported that in wounds of the knee he had obtained better results from primary suture than from the method of Carrel which had been much better than the older methods. However, if the Carrel method does not show the advantages of immediate suture it does not show its dangers because during the critical period it leaves the wound open in particularly satisfactory conditions of drainage, etc. Immediate suture ought only be done when the surgeon can follow and observe his patient for at least fifteen days.—(*Int. Abst. Surg.*, July, 1917.)

A Skin Ink for Radiography.

Captain N. S. Finzi, of the British Army, says radiologists have long been troubled by the thorough way in which some nurses endeavor to remove localization skin marks as soon as the patient returns to the ward; hence the need for a substance which will make an indelible mark on the skin, proof against rough treatment, has been acutely felt in this war. The properties required in such a substance are as follows:

1. It should stain the skin such a color that it will show up against iodin.
2. The mark should be unaffected when rubbed with spirit, acetone, ether soap, or tincture of iodin.
3. The mark must last, when covered up with dressings, at least five days, and longer if possible.
4. The mark should be quickly and easily made, and making it should not hurt the patient, for it must often be placed on a part that is acutely inflamed and tender.
5. The substance used for the mark must not damage or inflame the skin.
6. The mark should be visible immediately it is made.
7. The materials used must be obtainable.

After much experimentation he selected this formula:

Acid. pyrogallic	1 gram
Spirit. vini meth.	10 c.cm.
Liq. ferri perchlor. fort.	2 c.cm.
Acetone	ad 20 c.cm.

This gives a concentration of 5 per cent. pyrogallol and 2 per cent. Fe. The solution is best kept in a bottle with a camel's-hair brush attached to the cork so that it can easily be painted on. The mark is a brownish-gray at first, but after a few hours turns a brilliant black. It fulfills the conditions set forth above.—(*Brit. Med. Jour.*, Jan. 12, 1918.)

Aromatic Chloramine Compounds for the Sterilization of Water for Drinking Purposes.

Lieut. R. L. M. Wallis, R. A. M. C., observes that the germicidal power of the chloramines is molecule for molecule, greater than that of sodium hypochloride, and Cohen, Dakin, Daufresne and Kenyon came to the conclusion that chloramine T was the best reagent so far examined on account of its being easily made, relatively non-toxic, soluble in water and may be kept unchanged in the solid or the liquid state for a long period. These properties make chloramine T very valuable as a chemical reagent for sterilizing drinking water. Wallis found, when distilled or sterilized water was used in the experimental observations, that it was always necessary to add carbon dioxide to obtain the maximum effect of the added chloramine.

Wallis thus sums up his observations: (1) The aromatic compounds of chlorine are powerful germicidal agents when added to drinking water in small quantities. (2) Experiments with chloramine-T indicate that 0.04 gram will completely sterilize one liter of any water in ten hours, even when 10,000 organisms per cubic centimeter are present. (3) The water so treated is entirely devoid of any unpleasant taste and will remain sterile for at least four days. (4) There is evidence to show that its activity is markedly increased by the presence of organic matter in solution in the water, in fact organic matter is essential for the compound to exert its action as a disinfectant. (5) Chloramine-T possesses many advantages over bleaching powder as a chemical reagent for sterilizing water, more particularly its definite and unalterable composition, its stability in solution, non-toxicity, absence of corrosive action, and non-production of an unpleasant taste in the treated water. (6) All the results tend to demonstrate that we have in certain of the chloramines the ideal reagent for sterilizing water on a large scale.—(*Indian J. Med. Research*, April, 1917.)

Serum Disease in Cerebro-Spinal Meningitis and Diphtheria.

The *Lancet* recently published three interesting communications on the subject of serum disease and the rashes associated with it. Two of the papers, those by Surgeon-General H. D. Rolleston, R. N., and Dr. Claude Ker, were contributions to the discussion before the Royal Society of Medicine on the Manifestations of Serum Disease which may Follow Intrathecal Injections. There is a striking concord between the results arrived at by these two observers, and as their papers contain some valuable practical suggestions they deserve to be widely read.

Gen. Rolleston records that in 96 bacteriologically proved cases of cerebro-spinal fever occurring during the third year of the war and treated by serums a serum reaction occurred in 58, or 60 per cent., of those who survived for ten days or more. In nine of these cases, or 15.5 per cent., the serum rash was preceded or accompanied by a definite recrudescence of meningitic symptoms. It is now well recognized that injection of serum into a healthy intrathecal space produces an aseptic meningitis, and it is established that such a sero-toxic meningeal reaction after intrathecal injections in cases of cerebro spinal fever, as in the 9 cases here mentioned, may give the symptoms of a recrudescence of the disease, and that under these circumstances a fresh injection of serum may aggravate these manifestations and do harm rather than good.

Gen. Rolleston suggests that a decision as to whether more serum should be given or not can be made by examining the cerebro spinal fluid for meningococci, which would indicate the existence of an actual exacerbation, or by examining for glucose, which would be present in the serotoxic reaction, absent in a relapse of the meningitis. He further points out that this meningeal manifestation of serum disease only develops after intrathecal injection, and he emphasizes the importance of a general recognition of its occurrence. Dr. Ker arrives at almost identical conclusions. He observed serum sickness in 36 out of 48 cases of cerebro-spinal fever who lived 9 days or more—i. e., in 76 per cent. He only observed an aggravation of the meningeal symptoms during the serum sickness in two cases, though he found increased turbidity of the cerebro-spinal fluid and other indications of meningeal reaction in several others. In all of these cases the fluids withdrawn reduced Fehling's solution, and he emphasizes the convenience of this test.

Both Gen. Rolleston and Dr. Ker point out that in spite of the frequency of rashes after intrathecal injection of serum, it is not established that they are more frequent than after subcutaneous injection. Dr. Ker discusses the effect of sharp attacks of serum sickness upon the course of the disease, and states that he regards them as advantageous rather than otherwise. He is convinced that in diphtheria a smart serum reaction, especially when accompanied by pyrexia, is often of great benefit to a patient with feeble pulse and subnormal temperature, and he thinks that many patients with cerebro-spinal fever are improved by these reactions. The third communication is a letter from Dr. Frederic Thomson giving some interesting details of the rashes occurring after the administration of antidiphtheritic serum, showing that they are still very frequently observed and that a circinate erythema is not uncommon, being next in frequency to the urticarial type of rash. These interesting observations on serum disease and its significance should stimulate further investigation.—(*Lancet*, Dec. 15, 1917.)

The Cure of Spinal Concussion in Warfare by Suggestion.

Alan F. Grimbly, says the interest in the case described below is twofold, lying partly in the unusual nature of the injury, and in the complete cure effected within 48 hours of the patient's admission to hospital.

J. C., able seaman, aged 23 years, was a member of a gun's crew during an action. A direct hit on his gun killed all the crew but himself. An explosion caused by a torpedo, threw him into the sea. He succeeded in regaining the ship, but she sank within a few minutes. He jumped overboard before she went down and began to swim again; a dull explosion took place almost immediately, whereupon he felt a severe pain in his back and lost consciousness. He recollected nothing else until he found himself on shore.

On admission to hospital, the patient was fully conscious but quite unable to walk or stand. When placed in bed, he lay towards his right side with the thighs semi-flexed and the shoulders bent forwards. He was quiet, answered questions slowly in a subdued voice, and complained of persistent pain in his back. On examination, great muscular rigidity was found in the lumbar and lower dorsal regions on both sides, together with considerable tenderness on pressure. The pupils were somewhat dilated, and the deep reflexes increased; the pulse was slow and of good tension, and the temperature subnormal.

It was decided that a course of suggestion and radiant heat might be of benefit. A radiant heat bath was ordered that night and for the following morning, and Grimbly strongly suggested to the patient that he would be quite well on the Friday forenoon, two days from admission. He slept fairly well, and on the Thursday no apparent change had taken place in his condition; he was disinclined to speak, and the pain in his back had not diminished. That evening it was very strongly suggested that he would sleep soundly and wake in the morning with full use of his limbs and freedom from pain. Friday morning found the patient sitting up in bed anxious to be allowed to get up; he could walk as well as ever, and was absolutely free from pain or stiffness. He was kept under observation for a while, and given 3i of Easton's syrup three times a day. Very shortly afterwards he left the hospital feeling perfectly fit.

The Soldier's Heart in War.

An abstract in *Rev. Neurologique* summarizes observations by Leon Binet on the effects of war emotions on the cardiac rhythm. These show themselves in various ways. There may be no modification in the pulse, and no emotional reaction. More often on the explosion of a shell, a torpedo, or a mine, the heart's action is slowed, the pulse-rate falling to 60, as a result of excitation of the vago-bulbar system. In other cases stimulation of the sympathetic causes acceleration of the heart; this emotional tachycardia has been noted particularly in soldiers recently arrived at the front, and in men of "moderate" courage. War injuries, including concussion, also act on the cardiac rhythm. The emotional shock, hemorrhage, and pain combine to induce moderate tachycardia. This is the general rule, which does not, however, hold good for certain cases of wound of the head and chest.

In some cranial cases a notable slowing of the cardiac rhythm (to 65 or 60, or even 55) occurs very shortly after the infliction of the wound; this symptom indicates the existence of serious lesions, and calls for immediate intervention. In the chest cases there is almost always marked tachycardia, unless the heart is involved, when there is sometimes progressive bradycardia. The nervous shock following explosion of a large shell at close range, without external wound, expresses itself by disturbances of varying character, including alterations in the pulse. In 56 out of 100 men exhausted by prolonged fatigue, slowing of the pulse was noted. The cardiac rhythm also varies in flying men. In a rapid ascent, and particularly in a sudden descent, the pulse is decidedly slowed. In such cases there is excitation of the vagus causing a so-called vago-bulbar syndrome (bradycardia, hypotension, tendency to syncope.)—(*Brit. M. J.*)

The Treating of Nerve Injuries.

Von Lorentz recommends (*Beitr. z. klin. Chir.*, 1916, c), that immediately following a nerve injury, the joint should be placed in such a position that the nerve is subjected to the least amount of strain. The elbow-joint should be flexed in injuries of the median nerve; similarly in paralysis of the ulnar nerve the fingers should be spread apart and all joints flexed; the knee-joint flexed in injuries of the sciatic nerve and so on.

Even with a very exact neurological examination it is not possible to obtain a correct demonstration of the nerve injury. Hence, presuming that the wound has healed, if after three months reaction of degeneration exists, or if there is a reduction in the already diminished electrical excitability, operation should be done. Persistent limited severe neuralgia is also an operative indication.

The choice of general narcosis or local anæsthesia is governed by the indications of each individual case, and the mode of operation depends upon the changes found. If outwardly there appears but slight injury the epineurium should always be opened. If there are internal changes it requires an exact knowledge of nerve topography before proceeding.

If resection is necessary, the nerve stumps should if possible be joined by direct suture. The author prefers the use of fatty tissue to protect the sutured part.

The after-treatment is most important. The author describes a modification of the Spitzy apparatus for radial paralysis which can be used till nerve-conduction is re-established. Hot air, massage, electric treatment, and suitable exercise are all to be used and give good results. Detailed reports of treated cases with illustrations are given.—(*S. G. O.*)

In the incipiency of cancer pulsatilla will disperse the gathering storm. Test—test—and let the results tell their own story.—(C. S. Cope, *A. J. C. M.*)

Genito-Urinary Surgery

The Control of Venereal Diseases.

Capt. H. Wansey Bayly, Medical Officer in Charge of the Venereal Department, St. George's Hospital, writes on the Venereal Clinic: Its Organization and Administration. His clinic at St. George's is arranged to handle 400 cases a year. The staff consists of the medical officer in charge, one male and one female clinical assistant, one dispenser, one sister, one nurse, and a porter. Five rooms are necessary. One consulting room, one syphilis treatment room, one gonorrhea treatment room, and two waiting rooms, one for before treatment and one in which to rest after treatment.

The consulting room furniture and outfit are very simple. The gonnorrhea treatment room should be provided with a sink and washhand basin, an examination table with knee crutches for female patients, and two or three irrigation apparatus hung by pulleys from the ceiling, and fitted with rubber tubing and nozzles for irrigation of urethra and bladder. The syphilis treatment room should contain two or three couch tables for the treatment of female cases. The male cases can be given intravenous salvarsan in the sitting position with the arm resting on a small table, and the intragluteal injections of mercurial cream can be given in the standing position. It is usually impossible for the patients to attend oftener than twice a week, which is sufficiently often for syphilitic cases. Indeed, after the first week, unless they are receiving half-doses twice a week, which gives better results than the full dose once a week in very chronic cases (such as interstitial keratitis, chronic superficial glossitis, gummatous infiltration of the testicle, or lesions of the central nervous system), one visit a week is enough. No home treatment other than a mouth wash and a medicine containing pot. iod. is usually required for cases of syphilis. With gonorrhea, however, efficient home treatment is necessary, and both male and female patients must be supplied with suitable apparatus for efficient irrigation of urethra or vagina.

In cases of gonococcal vulvitis and vaginitis in young children the mothers are instructed how to irrigate with pot. permang. and then fill the vagina with protargol solution and hold the child's legs up high for a quarter of an hour afterwards, so as to prevent the protargol escaping. It is obviously useless to attempt to treat gonnorhea at the clinic unless the patients are carefully instructed as to home treatment. One or two visits to the clinic weekly will be quite sufficient for other treatment, such as swabbing cervix or vagina, massage of prostate, bougie dilatation, administration of vaccines, etc. The patients must be instructed to hold their water for three or four hours before coming to the clinic in order that urethral discharge, turbidity of urine, threads, etc., can be investigated at each visit.

The following list of instruments and glass to be sufficient for the work of the clinic.

Instruments.

1 set Ferguson's specula.
1 pair vulsellum forceps.
6 Playfair's probes.
2 pairs tampon forceps
2 female catheters.
1 set metal bougies, curved, 2/5 to 17/20.
1 set metal bougies, straight, 2/5 to 17/20.
1 set Harrison's gum elastic whip bougies 1-6.
1 Kollmann's dilator for prostatic urethra.
1 urethroscope and battery.
6 urethral swab holders.
1 set scalpels.
1 urethral electric cautery and holder.
3 conical-nosed glass urethra syringes
3 1-c.c. glass syringes
3 10-c.c. record syringes.
1 sterilizer.
1 pair dressing forceps.
1 pair dissecting forceps.
1 pair instrumental forceps.
6 gum elastic catheters.
1 tongue depressor.
2 pairs scissors.
3 enamelled trays.
1 instruments cupboard.

Glass.

2 2-pt. measuring glass jugs.
2 urine glasses.
2 2-oz. glass measures.
12 Janet's urethral cannulae (male).
6 female catheters.
4 glass bowls.

The patients are admitted to the consulting room in rotation and time is saved if the old cases are seen first, for they can then receive their routine treatment from the clinical assistants while the new cases are being examined by the surgeon. Every new case has his name and address entered by the surgeon in the identification book. The patient is then given a small card of a different color for the two sexes, on which is printed the hours and days of the clinic. The patient's number is written on the back of this card, which he keeps. He is also given a prescription book, on which his number is written, in which is entered all medicines, lotions, or ointments, mouth washes, etc., that are prescribed for home treatment. This book is presented by the patient to the dispenser, who gives him the medicaments ordered, and at the end of the clinic hands the books to the porter, who files them. On subsequent visits the patient presents his number card to the porter, who then hands him his prescription book, which the patient gives to the surgeon when he enters the consulting room.

After entering a new patient's name and address the surgeon examines the patient and enters the particulars in the case book. These particulars comprise personal and family history, history of infection and onset of symptoms, and condition at time of first attendance. The case sheet also contains columns for treatment, progress, complications, and pathological examinations. Male cases should be examined nude and a routine investigation made of anus, mouth, throat, scrotum, skin, and lymphatic glands. Female cases should be investigated on the examination table as a matter of routine, as but little reliance can be placed on the patients' statements, and quite frequently vulval or anal lesions or a marked vaginal discharge are found to be present in patients who have stated that no such conditions existed. If the passage of a vaginal speculum is tolerated, one should be passed as a matter of routine, and the cervix and os uteri carefully examined. Any discharge from cervix or urethra must be examined for the presence of gonococci. As a matter of routine, blood is taken for the Wassermann reaction in every case of lesions that might possibly be syphilitic. The exudate from lesions which are suspected to be of an early syphilitic nature is always examined for the *Spirochaeta pallida*, and in every case of possible gonorrhea the urethral discharge is examined for gonococci and the urine for threads and turbidity. Every patient who has received an injection of salvarsan at his last visit should be interrogated as to symptoms of intolerance and reaction. The urine should be examined for albumin before an injection is given, and old cases have their weight taken and their urine examined always before they enter the consulting room. The patient should fast for three hours before and after receiving an intravenous injection. The regretable occurrence of severe or even fatal crises that used some years ago occasionally to arise with most syphilologists with an extensive series of patients under salvarsan treatment was due to our lack of knowledge and experience as to the warnings of commencing intolerance. No definite course of injections can be rigidly adhered to, though the intravenous course recommended by Lieutenant-Colonel Harrison as suitable to the majority of cases can usually be tolerated. This course consists of three injections of 0.45 grm. Neosalvarsan in the first eight days with four-day intervals; then a rest for a fortnight and two injections of 0.6 and 0.75 grm. at a weekly interval; then another fortnight's rest followed by two weekly injections of 0.9 grm. This course therefore consists of seven injections spread over two months. Children tolerate the drug well and should receive doses proportional to their age, as with drugs given by the mouth. A weekly intramuscular injection of 1 gr. Hg is given. Any sign of intolerance to either arsenic or mercury requires a modification of this scheme. Occasionally a patient is met who shows no intolerance to the arsenic beyond an acute vaso-dilator crisis immediately after injection, with flushed face, swollen throat, and streaming eyes and nose. If five to ten drops of adrenalin, 1/1000, be injected subcutaneously five minutes before the administration, the recurrence of these symptoms with the next injection can usually be prevented.

In 1913 I published a paper in *The Lancet* on the dangers and complications of salvarsan treatment, and mentioned six cases that had caused me grave anxiety out of a series of 1000 injections. At that time I advocated giving two maximum doses (0.6 grm. salvarsan or 0.9 grm. neosalvarsan) at 48 hours' interval at the commencement and conclusion of a three months' course of mercurial injections. Although I found that this scheme gave excellent therapeutic results, and was well tolerated by the very great majority of cases, I had to give it up, in view of the six cases mentioned above and one fatal case that occurred shortly after the 1100th injection.

In over 2000 injections Bayly has had no serious results and the therapeutic results have been quite satisfactory.

He considers it is quite safe to treat syphilitics with intravenous injections as out-patients, provided that they are kept lying down and under observation for an hour after each injection. If they then feel well, they can be permitted to proceed to their homes, but they should be detained in hospital if any marked symptoms of reaction become manifest.—(*Lancet*, Nov. 3, 1917.)

According to Clifford Allbutt anemia sometimes reduces respiratory activity, as when—

"The patient lies in the vicious circle of a reduced activity of the respiratory centre, due to the anaemia it should help to dispel."

A Course of Instruction in Venereal Diseases.

David Watson, lecturer of venereal diseases, University of Glasgow, says that in view of the recommendations of the Royal Commission on Venereal Diseases, medical schools are faced with the problem of providing their students with special instruction on the diseases popularly included under the term "venereal disease."

As there is no class at present in the curriculum to which it would be possible to refer the teaching of this subject, the establishment of a new class will be found necessary, and the course will require to be compulsory, otherwise only a percentage of the students will attend. No expedient, such as including a question on the subject in one of the medical or surgical papers of the final examination, especially when such question is neither set nor checked by the teacher, will succeed in insuring the attendance at a voluntary class of the majority of students. The General Medical Council may solve the question in one of the three following ways: (*a*) The establishment of a new compulsory class on the venereal diseases; (*b*) the inclusion of the teaching of the whole subject in a compulsory dermatology class; (*c*) the division of the subjects between a dermatology class and a new class of genito-urinary surgery, both compulsory. The last method would be the ideal one, but, unfortunately, in addition to imposing two new classes on the student, it is a plan which it would be possible to realize at present in few medical schools owing to the paucity of genito-urinary clinics. In these circumstances it may be of service to give a short sketch of a venereal disease clinic and its course of teaching, based on the experience gained at Glasgow, where a university lectureship was established some years ago.

Watson has charge of a venereal department at the Royal Infirmary and also of the Lock Hospital for Women, and the instruction is given at these institutions. In each there is both an outdoor and an indoor department; in the indoor treatment room is attached to each ward and there is a central operating theatre. The outdoor department (which should have an evening hour of attendance) consists of a waiting room, an examination room, a treatment room, and a bacteriology room, all in series.

The examination room is divided into compartments by screens or otherwise, each containing an examining table; the work is thus expedited without sacrificing privacy. An instrument cabinet, dressing tables, wash-hand basins, and a sink complete the furnishing of the room. In addition to the usual surgical instruments and sterilizer, the special instruments include cystoscope, urethroscopes, storage battery; urethral probes, knives and cauteries; catheters, Watson's sounds, flexible bougies (filiform, acorn-tipped, and olivary), hot sounds, syringes, irrigating stand, urological basins, and salvarsan apparatus.

The bacteriology room should be supplied with a good microscope, having an oil immersion lens and dark-ground illumination, an incubator at 37 degrees C., and also stains and apparatus. Tubed media can be obtained from the regular bacteriological department as required. Wassermann tests are performed only in the regular pathology department.

The treatment room in the department for male patients should have a number of cubicles each containing a urinal, and, at a height of 4½ feet above the urinal, a two-quart glass reservoir with attached rubber tubing for the irrigating solution. The most efficient means of treating gonorrhea we have at present at our command is the *grand lavage* method of Janet. This can quite well be carried out by the patients themselves in a standing posture, but a trained attendant must be in attendance at treatment hours. He supplies each patient with a sterilized cannula, explains the details of the procedure, sees that the whole process is properly completed, and keeps a record of attendance. With this provision, a patient suffering from acute gonorrhea can, during the first week, attend twice daily for treatment and with decreasing frequency thereafter, at hours to suit his own convenience, and he is only required to see the medical practitioner in charge at stated intervals.

The course of instruction includes at least twelve lecture demonstrations. By a selection of cases systematic teaching and clinical instruction can be combined. In addition each student is given the opportunity of practising the technique of the various methods of diagnosis and treatment, the class being divided into sections of not more than six for this purpose. Prominence is given to the clinical and practical features of the course.

Syllabus of Course; Twelve Meetings.

1. Historical and general survey. Acute gonorrhea in the male; anatomical and physiological data; bacteriology and pathology. Each student collects specimens for bacteriological examination.

2. Diagnosis of anterior and posterior urethritis; treatment of gonorrhea, practice of *grand lavage*, etc.

3. The complications of gonorrhea and their treatment; the preparation of vaccines, etc.

4. Chronic gonorrhea, its diagnosis and treatment; use of bougies, sounds, urethroscopes, etc.

5. Gonorrhea in women and children.

6. Urethritis simplex; venereal sores; balanitis; technique of examination to prove patient free from infectivity; prophylaxis.

7. Syphilis. Pathology; primary syphilis; classification of chancres; demonstration of the *Spirochaeta pallida*. Each student secures and examines specimens.

8. Systemtic invasion; skin and mucous membrane manifestations; Wassermann reaction; methods of taking blood and serum specimens practised.

9. Late appearances of syphilis: syphilis of internal organs.

10. Syphilis of the nervous system; withdrawal of cerebrospinal fluid for examination.

11. Congenital syphilis; syphilis of eye and ear.

12. Treatment of syphilis. Each student during the course administers salvarsan intravenously, and also practises intramuscular mercurial injections, etc.—(*Brit. Med. Jour.*, Jan. 12, 1918.)

Relative Value of Mercurialized and Salvarsanized Serum.

Haller finds that mercurialized serum does not measure up to salvarsanized serum in the treatment of syphilis of the central nervous system. He treated seventy-five patients with mercurialized serum and four hundred by the intraspinal injection of salvarsanized serum. The mercurialized serum was thus prepared:

"In the preparation of mercurialized serum, blood is withdrawn from a vein and allowed to clot. The expressed serum is centrifuged in order to free it from cells. The serum is then pipetted into glass tubes in 8 c.c. amounts, and to each tube is added 0.001 gm. of mercuric chloride in a 0.1 per cent. aqueous solution. The fluid is agitated for a few moments in order to insure a thorough mixing. The white ring of precipitated albuminate of mercury quickly redissolves in the excess of serum, giving a perfectly clear solution. The tubes are plugged and the serum inactivated for thirty minutes at 56° C. They are then stored away on ice until needed, when they are warmed to body temperature and the serum is administered.

"The amount of serum used has seemed to be of relatively little importance, although excessive amounts probably add to the immediate reaction. From 6 to 8 c.c. has been the amount used in most of the doses given in this series, for the reason that about that amount of spinal fluid is usually withdrawn for cell count, globulin and Wassermann tests. The dose of mercuric chloride has been varied from 0.0005 to 0.002 gm. The degree of immediate reaction is not perceptibly changed by increasing the amount to 0.001 gm., but an increase above this figure has seemed to add materially to the discomfort of the patient. The length of time during which the serum was heated to 56° C. has been varied from twenty minutes to two hours without apparently affecting the degree of reaction The age of the serum does not perceptibly add to its irritating properties. Several doses kept on ice for eight weeks and more were followed by less disturbance than many which were administered within twenty-four hours after preparation."

Reactions following the intraspinal injection was practically identical in both methods of treatment but he found the irritating effect of the mercurialized serum to be greater than that produced by salvarsanized serum. The advantages of mercurialized serum, he says, are its ease of preparation, keeping qualities, and the fact that it can be used under clinical conditions in which the use of salvarsanized serum is difficult or impossible.—(*Arch. Int. Med.*)

Operative Treatment of Gangrene of the Lung.

The surgery of the lung is making rapid progress in our generation and no one has done more to advance it than Professor Sauerbruch, of Zurich. At a recent clinical meeting at the Cantonal Hospital, he showed a case of extensive gangrene of the lower lobe upon which he had operated a week earlier. The essential points to observe in such an operation are the protection of the pleura by tampons from secondary infection and the removal of large portions of the costal wall in order fully to expose the gangrenous surface and secure good drainage. The results of operative interference in such cases are fairly satisfactory, when it is remembered that a large proportion do not reach the surgeon until their condition is desperate. Sauerbruch lost 13 out of 37 on whom he operated. He also demonstrated a case of gunshot wound in which gangrene of small extent had occurred in the lung from which he therefore removed the bullet with ensuing recovery.—(*Lancet*, Dec. 22, 1917.)

Diagnosis and Treatment

The Dietetic Treatment of Diabetes Mellitus.

R. T. Williamson, of Manchester, suggests three special forms of dietetic treatment, which he has found most useful in cases of diabetes mellitus. If the glycosuria continues after the patient has been placed for a few days on a restricted diabetic diet plus three ounces of white bread daily, then a rigid diabetic diet is tried, the white bread being cut off entirely and replaced by a suitable diabetic bread. If this fails to check the glycosuria after a very short period, the following diets may be tried, in any order, and in succession, if necessary. Diet A. is often very useful, and often checks the glycosuria in a few days.

For one week the patient takes only the following foods, and rests on the sofa all day:

DIET A.—VEGETABLES AND JELLY.

Breakfast, 8 a. m.—Coffee or tea with cream or milk. Tomatoes, mushrooms, or onions, lettuce, jelly.

11 a. m.—Jelly.

Dinner, 1 p. m.—Tomato soup. One or two of the following: Vegetable marrow, onions, cabbage, cauliflower, curly green, asparagus, French beans, boiled lettuce, spinach, Brussels sprouts, cucumber, mushrooms. Jelly.

3.30 p. m.—Jelly.

5 p. m.—Tea with cream or milk. One or two of the following: Tomatoes, onions, lettuce, cucumber, salad, mushrooms. Jelly.

Supper.—Jelly.

The jellies suitable are: Veal jelly, beef-tea jelly, calf's foot jelly, lemon jelly.

If the glycosuria still continues after this diet has been followed for seven days, an ordinary diabetic diet is allowed for a few days or a week, and then the following diet is tried for seven days—diet B.—the patient resting on the sofa all day:

DIET B.—EGGS, MILK, CREAM, ETC.

8 a. m.—Coffee or tea, with one tablespoonful of cream. One egg (poached, boiled or buttered).

10 a. m.—A glass of warm milk (half a pint).

12 noon.—Custard (prepared from one egg and half a pint of milk).

2 p. m.—A glass of warm milk (half a pint).

4 p. m.—Tea, with one tablespoonful of cream. One egg (poached, boiled or buttered).

6 p. m.—Cream, two tablespoonfuls, in half a pint of warm beef-tea.

8 p. m.—A glass of warm milk, or one egg beaten up and added to half a pint of warm beef-tea.

10 p. m.—Cream, two tablespoonfuls, in half a pint of warm beef-tea.

This diet is often very useful, and may check the glycosuria promptly in a few days. If it fails, the patient is placed on the ordinary diabetic diet for a few days, and then the following casein diet is tried for seven days, the patient resting on the sofa all day:

DIET C.—CASEIN AND CREAM.

The patient is given, for seven or ten days only, a glass of casein (or biogene) and cream with water every two hours from 8 a. m. to 10 p. m. The casein preparation, lait-proto No. 6, will probably be the most satisfactory for the majority of patients. A cup of tea or beef-tea, or both, may be also taken, if the patient desires, twice a day.

The mixture of casein and cream and water is prepared as follows: One tablespoonful of casein, or lait-proto No. 6, one tablespoonful of cream; mix well in a tumbler with a fork or spoon, then add hot water (or cold, if preferred) very gradually, mixing well until the tumbler is full. (The fluid may be sweetened with saccharin, or flavored with nutmeg, if desired, or by the addition of a tablespoonful of whisky or sherry.)

(In place of *one* tablespoonful of casein, *two* tablespoonfuls of biogene may be used, if the patient does not like the taste of the casein. It should be mixed with *two* tablespoonfuls of cream and the water added as just described.)

Many patients take the casein or biogene quite well, others find both unpalatable, and some cannot take either. Lait-proto No. 6 may be taken quite well when ordinary casein or biogene cannot be taken.

If the casein treatment fails to check the glycosuria by the fifth or sixth day, it is well to diminish the amount of casein to half the quantity. This often succeeds when casein, in the quantity just mentioned, has failed to check the glycosuria.

If we wish to avoid using diabetic breads, diet A., B. or C. may be tried at once, if a diabetic diet, plus two or three ounces of white bread *daily*, fails to check the glycosuria. These diets A., B. and C. should be carefully observed; if they cause sickness, severe constipation, diarrhea, or unpleasant symptoms, or if the patient feels very weak whilst taking them, they should be at once discontinued; but most patients take them quite well. Diet C. requires to be the most carefully observed.

These three diets are often of great service in checking the glycosuria promptly, but should be continued only for a limited period, seldom longer than seven days. They often check the glycosuria in from three to seven days, occasionally in one or two days. They may be tried in any order. One may answer when the others fail. Thus often both the diet B. (milk, eggs, beef-tea, etc.) and the casein diet C. have failed to check the glycosuria, but the diet A. (of vegetables and jelly) has been successful. When diet B. (milk, eggs, beef-tea) and diet A. (vegetables and jelly) have failed, the casein diet C. has been successful.

Some patients, especially those who like to take large quantities of food, prefer the diet A., of vegetables and jelly, others the milk and egg and beef-tea diet, B., others the casein and cream diet, C.

If all the diets just described fail to check the glycosuria, then, after the patient has been allowed to return for a few days to the ordinary diabetic diet first described in this article, *complete fasting* may be tried. It may check the glycosuria for a day or two or for a long period, when the other diets have failed; but very frequently, if the other diets, A., B. and C., have failed, fasting only checks the glycosuria for a day or two or for a few days, and any increase in food is at once followed by glycosuria.

During this period of fasting, the patient takes only the following for a period of one, two, three or four days:

Coffee, with cream, three times a day.
Tea, with cream, three times a day.
Beef-tea three times a day.
Whisky and soda twice a day.
Water, as desired.

The coffee, tea, and beef-tea may be taken more frequently if desired.

If the glycosuria is checked, a very gradual return to ordinary diabetic diet follows.

Fast days, once a week, are sometimes of service. On these days the patient fasts and takes only tea or coffee, beef-tea or whisky and soda several times, and no other food. In the less severe cases the glycosuria ceases on these days, but it often returns in a day or two. It may, however, not return for many days, and occasionally for a considerable time it is much less than before the fast days.

After the glycosuria has been checked by the diet A., B. or C., the diet is *very gradually* changed. Bacon, green vegetables, eggs are added *gradually* (if the patient is not already taking these), and other articles of diet in diet A., B. or C. discontinued. Later some suitable diabetic bread or biscuits are allowed in small quantity. In course of time the diet first described in this article (ordinary diabetic diet with or without two or three ounces of white bread daily) is reached.

If the glycosuria returns after an ordinary diabetic diet has been taken for some time, it is well to place the patient back again on one of the diets, A., B. or C., for a few days. This often checks the glycosuria, and then the patient may return again to the ordinary diabetic diet.

A useful course is to advise one of the diets, A., B. or C., for *one or two days at the week end*, every week, and during the rest of the week to allow the ordinary diabetic diet.

All of these diets often fail in every severe cases, and they sometimes fail to remove the glycosuria even in cases which at first appear to be of only medium severity; but when the patient returns to an ordinary diabetic diet, *occasionally* the glycosuria then ceases, and for a long time the urine may be free from sugar.

This diet may check the glycosuria in a day or two or in a few days.

Salicylate of soda and acetyl-salicylic acid are often both of service, and Williamson has been able to demonstrate their value clearly, when given in sufficiently large doses. Salicylate of quinin also appears to be of service in some cases, and these drugs are worthy of careful trial if dietetic treatment fails. In some cases, all the treatments here described fail to check the glycosuria, and we have then to be content to reduce it to as small a quantity as possible by an ordinary diabetic diet plus a small amount of white bread (two or three ounces daily), with or without a small quantity of milk daily; but the diets just described, A., B. and C., are often of very great service in removing the glycosuria temporarily. They very often remove the glycosuria when an ordinary rigid diabetic diet has failed, and the glycosuria may then cease for a long period, even if it

returns later. If the sugar should return in the urine, by repeating the diet A., B. or C. for a short time—for a few days or a week—the glycosuria may again be checked. In some cases it may be checked repeatedly in this way for a long time. For months or years, in *some cases*, the urine may in this way be kept free from sugar, and the patient may be able to follow his work and live happily with an ordinary restricted, but not very rigid diabetic diet.—(*Practitioner*, Jan., 1918.)

Treatment of So-Called Pernicious Anemia.

Barker and Sprunt discuss briefly the classification of the severe anemias, their etiology and pathogenesis, and describe a regimen used by them in the Addison-Biermer type of pernicious anemia which they define as a hemolytic anemia of as yet unknown etiology. They report that in one group of cases they have had a favorable response on applying the regimen they describe, whereas in another group of cases, indistinguishable before applying the regimen, an unfavorable response was met with.

This regimen, summarized, includes:

1. Treatment in a private room in a hospital or nursing home.
2. Isolation and complete rest in bed under the care of a special nurse and the physician.
3. Careful search for focal infections, and radical surgical removal of any such infections found (especially of infections of the teeth and gums).
4. Milk diet at first, followed by rich diet rich in protein, the patient being encouraged to eat despite lack of appetite, and disregarding any consequences that may follow the ingestion of the food.
5. An abundance of fresh air, the bedroom windows being kept constantly open when the patient is inside, and the bed being run out upon an open porch in all suitable weather.
6. Dilute hydrochloric acid with and after meals on account of the gastric anacidity, followed three hours after each meal by 45 grains of pancreatin and 45 grains of calcium carbonate. If the pancreatin is not easily taken by the patient, it is omitted as one of the less important features of the treatment.
7. Arsenic, usually in the form of cacodylate of soda or small doses of salvarsan, is administered as a routine. When cacodylate is given, 50 milligrams are injected intramuscularly once a day for eight days, and after an interval of two weeks a second course of eight injections is given.
8. Massage thrice weekly is given while the patient is in bed. When the hemoglobin reaches 60 per cent., gentle exercises are begun in bed; when it reaches 80 per cent., the patient is allowed gradually to sit up and to take gentle exercise in the open air.
9. Blood transfusions are employed only in patients who on admission have a blood count below 1,000,000 or who after a trial of several weeks of the above regimen have not shown distinct improvement.

Splenectomy has not been used in the series of cases mentioned. To the paper are appended the case summaries and blood charts of seven illustrative cases.—(*Johns Hopkins Hospital Bulletin*, November, 1917.)

Relation of Acidosis to Anesthesia.

Caldwell and Cleveland, discussing this subject, conclude as follows:

1. In the average case undergoing operation, not showing glycosuria, very marked ketonuria nor acidaemia before operation, the degree of acidosis induced is negligible, and the choice of anaesthetics, so far as the question of acidosis is concerned, is irrelevant.
2. None of the symptoms observed in the routine postoperative course is due to the slight diminution in alkalinity of the blood and tissues, induced by the preparation, anaesthesia and operation.
3. With the exception of one diabetic patient with obvious severe acidosis before operation, not one case in 120 showed an acidosis, either from a clinical or laboratory standpoint, approaching dangerous proportions.
4. Acetone and diacetic acid occur in the urine of a certain percentage of patients undergoing operations, and in greatly increased percentage and amounts after operations.
5. The presence of acetone and diacetic acid apparently has no relation to the gravity of the operation or the seriousness of the pathological condition, to the length of anaesthesia, nor to postoperative nausea and vomiting.
6. No relation can be determined between the alveolar carbon dioxide tension and the acetone and diacetic acid elimination, neither in the untreated nor carbonate treated cases, the latter having shown acetone and diacetic acid in the presence of high blood alkalinity.
7. Diacetic acid in the urine is not necessarily a contraindication to operation.
8. Women show larger percentages and amounts of acetone and diacetic acid, both before and after operation, than men.—(*S. G. and O.*, July, 1917.)

The Typhoidin Test.

The original technique of Gay and Force's typhoidin test, or skin reaction indicative of immunity against typhoid fever, consisted in the application of a killed concentrated old glycerin broth culture of a single strain of the *Bacillus typhosus* to the slightly abraded surface of the arm. A positive reaction was distinguished from a negative result by a quantitative difference in millimetres in the diameter of the areola appearing round the abraded surface after twenty-four hours. By means of this test it should be possible to determine if a person previously inoculated against typhoid fever has outgrown the protection and therefore should be reinoculated.

Since it was first described in 1914 the technique of the test has been considerably modified and improved; thus Force and Stevens use a multivalent preparation from ten strains of *B. typhosus*, so as to allow for the probable varieties and the corresponding antigenic differences, inject a dried typhoidin powder intradermically in the minimal effective dose (0.00002 gram in 0.05 c.cm. of 0.5 per cent. carbolated saline), and read the result of the test forty-eight instead of twenty-four hours later. The prolongation of the interval is advisable, as it eliminates the non-specific irritative reaction which may occur in normal persons from the proteins of the culture media and from the carbolic acid used in the injection. In these conditions a positive reaction is shown by the presence, forty-eight hours after the application of the test, of a maculo-papule with a definite erythema at least 5 mm. in one diameter, a doubtful reaction by the absence of either induration or erythema, and a negative reaction by the absence of both after forty-eight hours. Out of 18 normal persons 17 gave a negative typhoidin reaction, and out of 26 persons with a history of typhoid fever 19 gave a positive reaction. It appears that typhoid immunity is less stable than is often supposed—50 per cent. of persons vaccinated against the disease three years before, 45 per cent. of those vaccinated two years, and 27 per cent. of those vaccinated one year previously gave a negative reaction. The routine administration of three doses of typhoid vaccine is in many instances insufficient to produce sensitization to the typhoid protein, and presumably therefore protection against the disease.

In support of the contention that this test shows whether or not an individual is protected against typhoid fever, Gay and Lamb point out that no person giving a positive reaction has subsequently developed the disease, that individuals who react positively, when reinoculated with typhoid vaccine, react much more violently than persons giving a negative reaction, in this respect resembling typhoid recoveries, and certainly indicating a reaction and probably protection against *B. typhosus*, and that persons inoculated against typhoid who give a negative typhoidin reaction become in most instances positive after further inoculation. The value of the test, in deciding on the desirability of antityphoid vaccination or its repetition, therefore appears to be established. —(*Brit. Med. Jour.*, Dec. 29, 1917).

Sidetracking of Stutterers by "Starters."

Walter B. Swift says: A "starter" consists in any invented motion or action invented by the patient to help his speech action. From analyses these are shown to be movements of head, arms, body, face. To the variety of 41 in 45 cases out of 123 cases examined, they are merely instant helps. They are no cure. They are usually different in different patients. They are usually the same in the same patient. Their momentary efficiency consists merely in a diversion of the attention. Their failure to cure consists in the lack of any profound development of visualization processes or permanent suggestive effect.—(*Jour. Applied Psych.*, March, 1917.)

Gastric and Duodenal Ulcers.

George Woolsey of New York believes the principal causes of the occasional failure of operative treatment to cure permanently gastric or duodenal ulcer are:

1. Improper technique.
2. Improper selection of cases.
3. Improper after-care and diet.
4. The failure to remove other causes of gastric symptoms.
5. The continued presence of the sources of infection.—(*S., G. and O.*, Nov., 1917.)

War Activities

Vocational Education For Returned Soldiers.

The vocational and educational problems involved in the rehabilitation of disabled soldiers and sailors are analyzed and discussed by the Federal Board for Vocational Education in Senate Document 167, published under the title "Rehabilitation of Disabled Soldiers and Sailors—Training of Teachers for Occupational Therapy."

Emphasis is placed on the immediate and pressing demand for the training of teachers of occupational therapy to take care of the handicapped men on their return from France. It is estimated that for every 1,000,000 men overseas, a minimum of 1,200 teachers will be needed. What must be the qualifications of these teachers in view of the experience of the belligerent countries; how they may be trained; what problems are to be met; and how they are to be met in the course of vocational rehabilitation; the social and economic aspects of rehabilitation, and the need for a national system for the rehabilitation of the maimed and crippled in industry as well as in war, are the main topics of the bulletin.

The emergency program outlined in the report is summarized as follows:

The returned disabled men are divided into four classes: 1, those who are permanently invalided; 2, those who are able to work, but cannot engage in competitive occupations; 3, those who must learn new occupations in the light of their handicaps; 4, those who are able to return to their former occupations. About 80 per cent. of all the disabled fall into the fourth group, and about 20 per cent. into the third group. The first two groups are relatively small.

For group 1 the treatment prescribed is "invalid occupations," which are occupations that help pass the time and save the patient from brooding. For group 2, those who will in all probability be unable to compete in any line of work, simple occupations are prescribed to be carried on under the guidance of occupational therapeutists. Such occupations are wicker furniture-making, chair-making, chair-caning, toy-making and semi-trades, will be taught these men.

For the 20 per cent. who must learn new occupations a more elaborate course of rehabilitation is suggested. This will include simple occupations such as are taught to the men of the second group, followed by courses in general education wherever necessary, and followed in turn by prevocational education, that is to say, elementary vocational education; and, lastly, by vocational education in whatever line is best adapted to the qualifications and handicap of the man.

A similar curriculum is proposed for the 80 per cent. who will probably be able to return to their old occupations. Under the lead of the occupational therapeutist the patient will be gradually taught simple occupations, his general education will be "brushed up" and the deficiencies supplied, and he will be re-educated so as to resume his former trade in spite of his handicap.

The Federal Board presents in this bulletin an outline of an emergency course covering eight weeks for the training of teachers to handle all four groups of disabled men. It is expected that a fraction of the disabled men themselves will serve as instructors. Nurses and teachers of arts and crafts will be available for the invalid occupation work; trained and selected women of education with previous experience in the arts, crafts and the "semi-trades" will be drawn on to teach simple occupations to group 2. In addition to these, there will be need in groups 3 and 4 of vocational teachers, preferably men, and men and women teachers, in general education subjects, instructors in manual training, commercial subjects, mechanical drawing, drafting, etc. Teachers of each group should have had practical experience in hospitals or institutions, and it is recommended that teachers in groups 3 and 4 should have experience in the same line of work in the military hospitals of Canada.

That every dollar invested by the Government in the vocational rehabilitation of disabled soldiers and sailors will bring handsome returns in national efficiency is maintained in the report. "If the war should finally end in economic exhaustion," says the report, "that Nation will ultimately triumph which is best able to use over again her men. It is claimed that Germany uses 85 to 90 per cent. of her disabled men back of the lines, and that the majority of the remaining 10 to 15 per cent. are entirely self-supporting. Belgium, whose depletion has been the greatest, was the first nation successfully to use over again her men. Not only has the large Belgium re-education center of Port Villez been self-supporting, but in addition it has paid back to the Belgian Government the entire capital cost of installation. * * *

"Economic necessity has made possible the results achieved in Belgium. For the other nations not so hard pressed the rehabilitation of the disabled and the strengthening of the vitality of the civil population may be an important and perhaps a determining point in their economic future * * * It is certain that our own economic future depends to a large extent upon the rehabilitation of those disabled both in war and industry."

The bulletin discusses at length the possibilities of development of occupational therapy and the equipment needed for all the groups described.

Transporting Army Wounded.

When it finally was decided that the wounded and sick to be returned from France should be brought back in troop transports instead of special medical transports the responsibility for their care and nursing, where the Navy was in charge of the transports during the actual passage of the vessels from port to port, fell upon the Navy medical service. In fact it would have been almost impossible without the organization of a special service for the Army to have undertaken this duty. The medical supplies of the troops for use overseas upon embarkation are stowed in the hold, to be ready for removal intact upon debarkation. The Navy surgeons have been given a special course of instruction in hygiene on shipboard, and what Army surgeons might learn for use on the single voyage would be of little practical value after that one trip.

The Navy medical officers on ship have charge of all sick bays, and provide all the surgical supplies for use on the voyage. The Army medical officers are expected to oversee their own commands, to enforce observance of all health rules on the part of the men, and to require all those sick or exposed to communicable disease to report at the sick bays for treatment. On the return voyage the sick and wounded who are to be returned are of course exclusively under the charge of Navy medical officers.

It may be said with confidence that, due in great measure to the isolation and inspection of the men before and after reaching the point of embarkation, little sickness has marked the passage of the troops from their camps to the landing points. Up to the present time no deaths among invalids have occurred on the return voyage and the accommodations on the large transports are so complete that it is possible to make the sick very comfortable.

Strength of the Army Nurse Corps.

Major Gen. William C. Gorgas, the Surgeon General of the Army authorizes the following statement: The strength of the Army Nurse Corps of the Medical Department on May 3 was 9,824 nurses, divided as follows: In Europe or awaiting transportation, 3,488; in the United States, 6,288; and in the Philippines and Hawaii, 48. These nurses are all women and are all on active duty; 1,448 of them are Regular Army nurses, which means that they have been enrolled directly from civilian life into the Army Nurse Corps; the other 8,376 are reserve nurses, or nurses who were nominated by the Red Cross to the Surgeon General's Office for enrolment in the Army Nurse Corps. On Dec. 31, 1917, there were 4,067 nurses, Regular and Reserve, in the Army Nurse Corps; therefore 5,757 is the strength added to the corps between Jan. 1 and May 3 of this year. When war was declared the strength of the corps was 373.

On the basis of the present size of the U. S. Army, the Surgeon General's Office computes that at least 24,000 nurses will be needed in service by Jan. 1, 1919. The rate of increase since Jan. 1 last, if continued throughout this year, will furnish only 21,338 nurses. The prospective deficit may be partially met by a plan for nurses' aids—women who, though not graduate nurses, will have special training fitting them to relieve nurses of many of the simpler tasks involved in caring for the sick and wounded in hospitals. It is estimated by the Surgeon General's Office that, even for the present size of the Army, the rate of enrolment into the Army Nurse Corps should be increased, and large additional needs will result from the large increase in the size of the American Army which is being planned. These needs cannot yet be definitely computed.

The Country's Hospital Facilities.

Information regarding the hospitals of the United States, in process of compilation since 1916, is now collated and indexed in the Medical Section of the Council of National Defense. A central bureau of information concerning the hospital facilities of the country, under war conditions, is thus provided. The data will be kept up to date from month to month. This bureau has not only the details of over 1,000 active hospitals, but is also gathering full data concerning nearly 8,000 other institutions which include sanatoria, infirm-

aries, homes, asylums and dispensaries. What each hospital has contributed in the way of medical men and interns for war service has been entered on the cards. The number of nurses who have volunteered and those remaining, the possibilities of expansion for war service, the results of personal inspection by state boards will constitute valuable, active working data.

The Physician's Library

Military Medical Administration. By Colonel Jos. H. Ford, Medical Corps, U. S. Army, 741 pages, $5.00. Philadelphia: P. Blakiston's Son & Co., 1918.

Coming as it does at a period when the medical profession is keenly interested in everything military, this book is timely. The author, whose experience as a medical officer has been very wide and covers a long period of years, has gone into this subject with the greatest detail and he has left very little to be desired in his treatment of the subject. All leading branches of the medical administration is given a chapter and in addition, he goes into various of the side lines which contitute part of the medical officer's work.

The only important subject omitted is that of tropical hygiene. While there are numerous books for the military surgeon, we know of no one volume which covers military medicine as thoroughly as Colonel Ford's. Not only has he written exhaustively on the individual factors which, taken collectively, go to make up the Medical Department, but he has gone into that bugbear of the medical officer, "papers," and has reproduced papers properly made out which will open up to the novice all the intricacies of the much disliked "paper work."

Colonel Ford has done a real service to the Medical Department of the Army and to those men who are entering the Army by producing this splendid volume at this time.

The Spleen and Anemia. By Richard Mills Pearce, M. D., of University of Pennsylvania, assisted by Drs. E. B. Krumbhaar and C. H. Frazier. 419 pages. Philadelphia and London: J. B. Lippincott, 1918.

The authors consider splenectomy as a means of studying in the animal experimentally the relation of the spleen to blood destruction and regeneration and as a therapeutic procedure in the treatment of human diseases accompanied by anemia.

In addition the latest views on the classification, diagnosis and treatment of non-infectious splenomegalies characterized by blood destruction and also the technic of the operation for splenectomy are presented.

The book is a notable contribution to medical science.

Surgery and Diseases of the Mouth and Jaw. By V. P. Blair, M. D., of Washington University. 3rd Edition. 733 pages. St. Louis: C. V. Mosby Company, 1917.

Major Blair, who was in charge of the sub-section of Plastic and Oral Surgery of the Surgeon General's Office, and is now abroad, gives his latest findings in this edition, which we may say, *en passant,* is much more valuable than its predecessors. Gunshot injuries of the face and jaws are thoroughly covered and one can well say that Major Blair has made a valued contribution to war surgical literature.

Training and Rewards of the Physician. By R. C. Cabot, M. D. 153 pages. $1.25. Philadelphia and London: J. B. Lippincott Co., 1918.

This book of plain truths is set forth in true Cabotesque style and is divided into *partes tres,* preparation of the physician, helps and hindrances in his development and the rewards. While the volume is in line with the subject, it abounds in clever bits, of the type which characterize the author. It is a hopeful, helpful, forceful book which should be studied by intending students and read for profit by practitioners, particularly those men who have not as yet gotten into their stride.

Clinical Diagnosis. By Charles E. Simon, M. D., of the University of Maryland. 9th Edition. 850 pages. $6.00. Philadelphia and New York: Lea & Febiger, 1918.

This splendidly illustrated and carefully prepared work on the use of laboratory methods as a means of clinical diagnosis has been revised and to an extent rewritten and the additional matter and pictures give it even greater value than it formerly possessed.

Previous editions have been thoroughly reviewed in these columns, so that any description of an elaborate nature would be unnecessary. This old friend is like all old friends, better as it advances in years.

Clinical Lectures on Infant Feeding. By Lewis W. Hill, M. D., Children's Hospital, Boston, and Jessie R. Gerstley, M. D., Michael Reese Hospital, Chicago. 377 pages, illustrated. Cloth, $2.75 net. Philadelphia and London: W. B. Saunders Company, 1917.

This book is so novel that we make bold to let part of the preface tell its story.

"These lectures represent a somewhat new method of postgraduate medical education. Dr. W. S. Rankin, Secretary of the Board of Health of North Carolina, conceived the idea of bringing the medical school, in the person of a traveling lecturer, to the doors of the physician, enabling the latter to continue with his practice instead of being compelled to leave it while he sought postgraduate education. Courses were arranged under the joint auspices of the University of North Carolina, and the State Board of Health. Two sections of six classes each were organized, one in the eastern part of the State, one in the western. Each author had six towns in his circuit, and traveled each day to a new town, returning to the first one at the beginning of each week.

One was trained in the methods used in Boston, the other in Chicago, with postgraduate work in Europe. As a result of this dissimilarity in training the lectures differ, and it occurred to the authors that it might be of value to combine the two sets in one volume, so that the teachings of two somewhat different schools of infant feeding may be compared. Each presented his course of lectures independently of the other and without knowledge of the other's methods and plans. It is with a spirit of co-operation rather than rivalry, of construction than destruction, that they are offered to the profession."

Impotency, Sterility and Artificial Impregnation. By Frank P. Davis, M. D. $1.25. St. Louis: C. V. Mosby Co., 1917.

A very sensible book, presenting causes and effects and ways and means. The subjects are well set forth and are conservatively handled in such a manner as to dignify what some writers make an unpleasant topic.

Medical War Manual Series. No. 3. Military Ophthalmic Surgery. By Majors Allen Greenwood, G. E. de Schweinitz and W. R. Parker, M. R. C.

No. 4. Military Orthopedic Surgery, by the Orthopedic Council. $150. Philadelphia and New York: Lea & Febiger, 1918.

These little manuals, intended for military surgeons, contain a vast amount of information, crowded into very small space. Not an extraneous word is employed and they are splendid examples of brevity, lucidness and general excellence.

It would be well for medical writers to follow this style in preparing copy for medical treatises.

The Treatment of War Wounds. By W. W. Keen, M. D., Emeritus Professor of Surgery, Jefferson Medical College. 169 pages. Illustrated. Cloth, $1.75 net. Philadelphia and London: W. B. Saunders Co., 1917.

Every late method of treating war wounds is set forth in this book. A particularly clear exposition of the Dakin-Carrel method is given, the prevention of tetanus and gas gangrene is discussed, and there are chapters on wounds of the head, chest, joints and abdomen and on burns.

As thousands of our practitioners will be called on to treat these very conditions, the appearance of this book is timely and its lessons will be fruitful.

American Addresses on War Surgery By Sir Berkeley Moynihan, C. B., Temporary Colonel, A. M. S. 143 pages. $1.75 net. Philadelphia and London: W. B. Saunders Co., 1917

The great number of admirers of this distinguished British surgeon will be glad to know that his delightful addresses, delivered here last fall, have been preserved in permanent form. All those who heard Sir Berkeley were deeply impressed with his erudition and earnestness as well as the broad aspects of his surgical knowledge and he left an indelible impression on his American confreres.

Histology. By Henry E. Radasch, M. D., of Jefferson Medical College. 580 pages. $2.50. Philadelphia: P. Blackiston's Son & Co., 1918.

From compend to manual is the history of this book. The author had too much to offer on his subject to crowd it all in a quiz compend. The change is a welcome one, for it has developed an excellent text book and one which covers the subject from soup to nuts. The subject matter is well prepared and the illustrations add materially to the text.

The Third Great Plague: a Discussion of Syphilis for Everyday People. By John H. Stokes, M. D., The Mayo Clinic,

(*Continued on p. 22.*)

A Palatable
Bromide-Preparation

SEDATIVE
ANTI-EPILEPTIC
MILD HYPNOTIC

SEDOBROL "ROCHE"

Tablets each containing 17 Grains
Sodium Bromide, with Sodium Chloride, Fat,
Vegetable Albumen Extractives etc.

Procurable from druggists.

TINS OF 10, 30, 60, 100
500 AND 1000 TABLETS

ADDED TO HOT WATER A MOST PALATABLE BOUILLON IS PRODUCED

SEDOBROL affords a convenient means for the administration of bromide to the most discriminating patients.

DOSAGE: IN EPILEPSY INCREASING **SLOWLY** FROM 1 TABLET TO 4 OR 5 TABLETS DAILY.
FOR OTHER INDICATIONS 1 OR 2 TABLETS ONCE OR TWICE A DAY.

Trial supply and literature on request from:

THE HOFFMANN-LA ROCHE CHEMICAL WORKS
440 Washington Street, **NEW YORK.**

The Management of an Infant's Diet

DIARRHEA OF INFANTS

Three recommendations are made—

Stop at once the giving of milk.
Thoroughly clean out the intestinal tract.
Give nourishment composed of food elements capable of being absorbed with minimum digestive effort.

A diet that meets the condition is prepared as follows:

Mellin's Food . . . 4 level tablespoonfuls
Water (boiled, then cooled) **. . 16 fluidounces**
Feed small amounts at frequent intervals.

It is further suggested:—As soon as the stools lessen in number and improve in character, gradually build up the diet by substituting one ounce of skimmed milk for one ounce of water until the amount of skimmed milk is equal to the quantity of milk usually given for the age of the infant; also that no milk fat be given until the baby has completely recovered.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

(*Concluded from p.* 170.)

Rochester, Minn. 204 pages. Illustrated. Cloth, $1.50 net. Philadelphia and London: W. B. Saunders Co., 1917.

An interesting running story of syphilis, what it is, what it does and how it should be avoided. Intended for popular consumption, the book might profitably be read by medical men who do not specialize in the disease, for it is filled with valued axioms.

Such monographs as this will go far toward making the public realize what a cursed disease is this third great plague.

Blood Transfusion, Hemorrhage and Anemias. By Bertram M. Bernheim, M. D., of Johns Hopkins University. Cloth. 260 pages. $4.00. Philadelphia and London: J. B. Lippincott Co., 1918.

The outgrowth of a single chapter on this subject prepared several years ago, this book is very complete and embraces every feature of an important subject. The technic of transfusion is elaborately described and all indications are plainly set forth.

No attempt has been made to cover the laboratory end or to speculate on what the future has in store for this method, but the every day part of the work is thoroughly cared for.

The Illegitimate Baby's Rights.

The rights of illegitimate children and the State's responsibility for seeing that every child, no matter what his parentage, has the nurture, protection, and education essential to his usefulness as a citizen are for the first time given complete national recognition in the Norwegian laws concerning illegitimate children, according to a report issued today by the Children's Bureau of the U. S. Department of Labor.

These laws make the State instead of the mother responsible for establishing paternity. The State holds both parents equally and continuously responsible for the illegitimate child —"The child shall be entitled to bringing up—maintenance, training, and education—from both its father and its mother." The report contains a translation of the several Norwegian laws, with amendments, on illegitimate children and their care. A history of the efforts through which the legislation was secured is given in the introduction.

The attitude which looks upon illegitimacy as a child-welfare problem that must be solved for the sake of the child and of the State is exemplified by this Norwegian legislation. In connection with its studies of the bearing of the war upon child welfare the Children's Bureau examined the evidence obtainable but could not find that it justified the statements that have been circulated of wide-spread increase in illegitimacy since the war. The Bureau believes, however, that the needs of the illegitimate child must be considered in the Children's Year campaign "to save 100,000 children's lives during the second year of the war and to get a square deal for children." In the Children's Year Working Program attention is called to the necessity of providing opportunity for normal development to the child of unmarried parents.

Spontaneous Pneumothorax in Artificial Pneumothorax.

Marshak and Craighead, of Edgewater, Col., review the cases in the literature of spontaneous pneumothorax occurring during the course of induced pneumothorax and add two cases of Doctor Wm. N. Beggs, of Denver, and four of their own. In their paper they call attention to the fact that the symptom complex in these cases is a fairly constant one. There is invariably pain on the collapsed side with marked dyspnoea and sudden rise of temperature which may be increased from normal to 102° F., or even 104° F., within a few hours. They find the most helpful procedure in verifying the diagnosis to be the introduction of the pneumothorax needle. There is usually a high positive intrapleural pressure of as much as +40, +90, mm. of water, even though the last reading on the previous injection was low or negative. To explain the occurrence of the complication they concur with the theory of Beggs, who calls attention to the fact that after gas has been introduced into the pleura the usual support given the lung by the firm chest wall is replaced by that of a flexible body of gas and that weak spots in the lung would therefore give way more easily during strain and cough. As treatment they advise the relief of pressure by aspiration as often as may seem necessary but allowing sufficient gas to remain to keep the lung collapsed without embarrassing the patient, provided the opposite side still seems able to do the necessary work and shows no evidence of breaking down.—(*Am. Rev. Tub.*, 1917, Vol. 1, No. 9.)

while you wait

for a slowly-soluble tablet to dissolve

you can dissolve one of our hypo-tablets and make the injection

Which of the two would be more liable to impress the patient and his by-standing friends with your professional efficiency?

Ours are very porous and instantly soluble hypodermics

That's why you can always find them at most good drug-stores

SHARP & DOHME

the hypodermic tablet people since 1882

OTHER QUALITY PRODUCTS since 1860